

|   |        |
|---|--------|
| GTTTAGTCTGAGCCGAGCAGCTAAAGGGAGAAAGAAATCGCTCAGGAAAGACACACTGCAGACTCCACCGGCACCCCTGC    | 79     |
| AATAGATGGTTCCGACTACACAAGGGAGAAAACGCGGAGGTGACACTCTCTGCTGGAAAAGAGGACGAAACGACCAAA      | 158    |
| CAAACGCAAGGACTGGACTCCATGCCGAAGGTATCTGGAAGTCGTGACACGGTGTGTATATAAAACAAAAGTTTGGAGCT    | 237    |
| GTTAATTGCTGTGCTGTGTTATTAAAGAGACGCTTTCAAGTTTCAAGTACCAAAATGTAGCTTTACGTTGCCAAAGGAAGT   | 316    |
|   |        |
| TGAGGCAATTGCTTGTCTGTTTAACTTGCTCTGTGAGGAAATCTCATAAACTGACCA ATG CAC CAA ATG AAT       | 5 390  |
|   |        |
| A K M H F R F V F A L L I V S F N H D V   | 25     |
| GCT AAA ATG CAC TTT AGG TTT GTT TTT GCA CTT CTG ATA GTA TCT TTC AAC CAC GAT GTA     | 450    |
|   |        |
| L G K N L K Y R I Y E E Q R V G S V I A   | 45 510 |
| CTG GGC AAG AAT TTG AAA TAC AGG ATT TAT TAT GAG GAA CAG AGG GTT GGA TCA GTA ATT GCA | 510    |
|   |        |
| R L S E D V A D V L L K L P N P S T V R   | 65     |
| AGA CTA TCA GAG GAT GTG GCT GAT GTT TTA TTG AAG CTT CCT AAT CCT TCT ACT GTT CGA     | 570    |
|   |        |
| F R A M Q R G N S P L L L V V N E D N G E   | 85     |
| TTT CGA GCC ATG CAG AGG GGA AAT TCT CCT CTA CTT GTA GTA AAC GAG GAT AAT GGG GAA     | 630    |

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Fig. 1A

|  |     |
|--|-----|
| I S I G A T I D R E Q L C Q K N L N C S  | 105 |
| ATC AGC ATA GGG GCT ACA ATT GAC CGT GAA CAA CTG TGC CAG AAA AAC TTG AAC TGT TCC      | 690 |
| I E F D V I T L P T E H L Q L F H I E V  | 125 |
| ATA GAG TTT GAT GTG ATC ACT CTA CCC ACA GAG CAT CTG CAG CTT TTC CAT ATT GAA GTT      | 750 |
| E V L D I N D N S P Q F S R S L I P I E  | 145 |
| GAA GTG CTG GAT ATT AAT GAC AAT TCT CCC CAG TTT TCA AGA TCT CTC ATA CCT ATT GAG      | 810 |
| I S E S A A V G T R I P L D S A F D P D  | 165 |
| ATA TCT GAG AGT GCA GCA GTT GGG ACT CGC ATT CCC CTG GAC AGT GCA TTT GAT CCA GAT      | 870 |
| V G E N S L H T Y S L S A N D F F N I E  | 185 |
| GTT GGG GAA AAT TCC CTC CAC ACA TAC TCG CTC TCT GCC AAT GAT TTT TTT AAT ATC GAG      | 930 |
| V R T R T D G A K Y A E L I V R E L D  | 205 |
| GTT CGG ACC AGG ACT GAT GGA GCC AAG TAT GCA GAA CTC ATA GTG GTC AGA GAG TTA GAT      | 990 |
| R E L K S S Y E L Q L T A S D M G V P Q  | 225 |
| CGG GAG CTG AAG TCA AGC TAC GAG CTT CAG CTC ACT GCC TCA GAC ATG GGA GTA CCT CAG 1050 |     |
| R S G S S I L K I S I S D S N D N S P A  | 245 |
| AGG TCT GGC TCA TCC ATA CTA AAA ATA AGC ATT TCA GAC TCC AAT GAC AAC AGC CCT GCT 1110 |     |

Fig. 1B

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| F   | E   | Q   | Q   | S   | Y   | I   | I   | Q   | L   | L   | E   | N   | S   | P   | V   | G   | T   | L   | L   | 265  |
| TTT | GAG | CAG | CAA | TCT | TAT | ATA | ATA | CAA | CTC | TTA | GAA | AAC | TCC | CCG | GTT | GGC | ACT | TTG | CTC | 1170 |
| L   | D   | L   | N   | A   | T   | D   | P   | D   | E   | G   | A   | N   | G   | K   | I   | V   | Y   | S   | F   | 285  |
| TTA | GAT | CTG | AAT | GCC | ACG | GAT | CCA | GAT | GAG | GGC | GCT | AAT | GGG | AAA | ATT | GTA | TAT | TCC | TTC | 1230 |
| S   | S   | H   | V   | S   | P   | K   | I   | M   | E   | T   | F   | K   | I   | D   | S   | E   | R   | G   | H   | 305  |
| AGC | AGT | CAT | GTG | TCT | CCC | AAA | ATT | ATG | GAG | ACT | TTT | AAA | ATT | GAT | TCT | GAA | AGA | GGA | CAT | 1290 |
| L   | T   | L   | F   | K   | Q   | V   | D   | Y   | E   | I   | T   | K   | S   | Y   | E   | I   | D   | V   | Q   | 325  |
| TTG | ACT | CTT | TTC | AAG | CAA | GTG | GAT | TAT | GAA | ATC | ACC | AAA | TCC | TAT | GAG | ATT | GAT | GTT | CAG | 1350 |
| A   | Q   | D   | L   | G   | P   | N   | S   | I   | P   | A   | H   | C   | K   | I   | I   | I   | K   | V   | V   | 345  |
| GCT | CAA | GAT | TTG | GGT | CCA | AAT | TCA | ATC | CCA | GCC | CAT | TGC | AAA | ATT | ATA | ATT | AAG | GTT | GTG | 1410 |
| D   | V   | N   | D   | N   | K   | P   | E   | I   | N   | I   | N   | L   | M   | S   | P   | G   | K   | E   | E   | 365  |
| GAT | GTT | AAT | GAC | AAT | AAA | CCT | GAA | ATT | AAC | ATC | AAC | CTC | ATG | TCC | CCT | GGA | AAA | GAA | GAA | 1470 |
| I   | S   | Y   | I   | F   | E   | G   | D   | P   | I   | D   | T   | F   | V   | A   | L   | V   | R   | V   | Q   | 385  |
| ATA | TCT | TAT | ATT | TTT | GAA | GGG | GAT | CCT | ATT | GAT | ACA | TTT | GTT | GCT | TTG | GTC | AGA | GTT | CAG | 1530 |
| D   | K   | D   | S   | G   | L   | N   | G   | E   | I   | V   | C   | K   | L   | H   | G   | H   | G   | H   | F   | 405  |
| GAC | AAG | GAT | TCT | GGG | CTG | AAT | GGA | GAA | ATA | GTT | TGT | AAG | CTT | CAT | GGA | CAT | GGT | CAC | TTT | 1590 |

**Fig. 1C**

# Sequence

K L Q K T Y E N N Y L I L T N A T L D R 425  
 AAA CTT CAG AAG ACA TAT GAA AAC AAT TAT TTA ATC TTA ACT AAT GCC ACA CTG GAT AGA 1650  
  
 E K R S E Y S L T V I A E D R G T P S L 445  
 GAA AAG AGA TCT GAG TAT AGT TTG ACT GTA ATC GCT GAG GAC AGG GGG ACA CCC AGT CTC 1710  
  
 S T V K H F T V Q I N D I N D N P P H F 465  
 TCT ACA GTG AAA CAT TTT ACA GTT CAA ATC AAT GAT ATC AAT GAC AAT CCA CCC CAC TTC 1770  
  
 Q R S R Y E F V I S E N N S P G A Y I T 485  
 CAG AGA AGC CGA TAT GAA TTT GTA ATT TCA GAA AAT AAC TCA CCA GGG GCA TAT ATC ACC 1830  
  
 T V T A T D P D L G E N G Q V T Y T I L 505  
 ACT GTT ACA GCC ACA GAT CCT GAT CTT GGA GAA AAT GGG CAA GTG ACA TAC ACC ATC TTG 1890  
  
 E S F I L G S S I T T Y V T I D P S N G 525  
 GAG AGT TTT ATT CTA GGA AGT TCC ATA ACT ACA TAT GTA ACC ATT GAC CCA TCT AAT GGA 1950  
  
 A I Y A L R I F D H E E V S Q I T F V V 545  
 GCC ATC TAT GCC CTC AGA ATC TTT GAT CAT GAA GAA GTG AGT CAG ATC ACT TTT GTG GTA 2010  
  
 E A R D G G S P K Q L V S N T T V V L T 565  
 GAA GCA AGA GAT GGA GGA AGC CCG AAG CAA CTG GTA AGC AAT ACC ACA GTT GTG CTC ACC 2070

Fig. 1D



|          |          |          |          |          |          |     |     |     |     |          |          |          |          |          |          |          |          |          |          |             |
|----------|----------|----------|----------|----------|----------|-----|-----|-----|-----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------------|
| I<br>ATC | I<br>ATT | D<br>GAC | E<br>GAA | N<br>AAT | D<br>GAC | AAC | GTT | CCT | GTG | V<br>GTT | I<br>ATA | G<br>GGG | P<br>CCT | A<br>GCA | L<br>TTG | R<br>CGT | N<br>AAT | N<br>AAT | T<br>ACG | 585<br>2130 |
| A        | E        | I        | T        | I        | P        | K   | G   | A   | E   | S        | G        | F        | H        | V        | T        | R        | I        | R        | A        | 605         |
| GCA      | GAA      | ATC      | ACC      | ATT      | CCC      | AAA | GGG | GCT | GAA | AGT      | GGC      | TTT      | CAT      | GTC      | ACA      | AGA      | ATA      | AGG      | GCA      | 2190        |
| I        | D        | R        | D        | S        | G        | V   | N   | A   | E   | L        | S        | C        | A        | I        | V        | A        | G        | N        | E        | 625         |
| ATT      | GAC      | AGA      | GAC      | TCT      | GGT      | GTG | AAT | GCT | GAA | CTC      | AGC      | TGC      | GCC      | ATA      | GTA      | GCA      | GGT      | AAT      | GAG      | 2250        |
| E        | N        | I        | F        | I        | I        | D   | P   | R   | S   | C        | D        | I        | H        | T        | N        | V        | S        | M        | D        | 645         |
| GAG      | AAT      | ATC      | TTC      | ATA      | ATT      | GAT | CCA | CGA | TCA | TGT      | GAC      | ATC      | CAT      | ACC      | AAC      | GTT      | AGC      | ATG      | GAT      | 2310        |
| S        | V        | P        | Y        | T        | E        | W   | E   | L   | S   | V        | I        | I        | Q        | D        | K        | G        | N        | P        | Q        | 665         |
| TCT      | GTT      | CCC      | TAC      | ACA      | GAA      | TGG | GAG | CTG | TCA | GTT      | ATC      | ATT      | CAG      | GAC      | AAA      | GGC      | AAT      | CCT      | CAG      | 2370        |
| L        | H        | T        | K        | V        | L        | L   | K   | C   | M   | I        | F        | E        | Y        | A        | E        | S        | V        | T        | S        | 685         |
| CTA      | CAT      | ACC      | AAA      | GTC      | CTT      | CTG | AAG | TGC | ATG | ATC      | TTT      | GAA      | TAT      | GCA      | GAG      | TCG      | GTG      | ACA      | AGT      | 2430        |
| T        | A        | M        | T        | S        | V        | S   | Q   | A   | S   | L        | D        | V        | S        | M        | I        | I        | I        | I        | S        | 705         |
| ACA      | GCA      | ATG      | ACT      | TCA      | GTA      | AGC | CAG | GCA | TCC | TTG      | GAT      | GTC      | TCC      | ATG      | ATA      | ATA      | ATT      | ATT      | TCC      | 2490        |
| L        | G        | A        | I        | C        | A        | V   | L   | L   | V   | I        | M        | V        | L        | F        | A        | T        | R        | C        | N        | 725         |
| TTA      | GGA      | GCA      | ATT      | TGT      | GCA      | GTG | TTG | CTG | GTT | ATT      | ATG      | GTG      | CTA      | TTT      | GCA      | ACT      | AGG      | TGT      | AAC      | 2550        |

**Fig. 1E**

R E K K D T R S Y N C R V A E S T Y Q H 745  
CGC GAG AAG AAA GAC ACT AGA TCC TAT AAC TGC AGG GTG GCC GAA TCA ACT TAC CAG CAC 2610

H P K R P S R Q I H K G D I T L V P T I 765  
CAC CCA AAA AGG CCA TCC CGG CAG ATT CAC AAA GGG GAC ATC ACA TTG GTG CCT ACC ATA 2670

N G T L P I R S H H R S S P S S S P T L 785  
AAT GGC ACT CTG CCC ATC AGA TCT CAT CAC AGA TCG TCT CCA TCT TCA TCT CCT ACC TTA 2730

E R G Q M G S R Q S H N S H Q S L N S L 805  
GAA AGA GGG CAG ATG GGC AGC CGG CAG AGT CAC AAC AGT CAC CAG TCA CTC AAC AGT TTG 2790

V T I S S N H V P E N F S L E L T H A T 825  
GTG ACA ATC TCA TCA AAC CAC CAC GTG CCA GAG AAT TTC TCA TTA GAA CTC ACC CAC GCC ACT 2850

P A V E Q V S Q L L S M L H Q Q G Q Y Q P 845  
CCT GCT GTT GAG CAG GTC TCT CAG CTT CTT TCA ATG ATG CTT CAC CAG GGG CAA TAT CAG CCA 2910

R P S F R G N K Y S R S Y R Y A L Q D M 865  
AGA CCA AGT TTT CGA GGA AAC AAA TAT TCC AGG AGC TAC AGA TAT GCC CTT CAA GAC ATG 2970

D K F S L K D S G R G D S E A G D S D Y 885  
GAC AAA TTT AGC TTG AAA GAC AGT GGC CGT GGT GAC AGT GAG GCA GGA GAC AGT GAT TAT 3030

Fig. 1F

D L G R D S P I D R L L G E G F S D L F 905  
 GAT TTG GGG CGA GAT TCT CCA ATA GAT AGG CTG CTG GGT GAA GGA TTC AGC GAC CTG TTT 3090  
  
 L T D G R I P A A M R L C T E C R V L 925  
 CTC ACA GAT GGA AGA ATT CCA GCA GCT ATG AGA CTC TGC ACG GAG GAG TGC AGG GTC CTG 3150  
  
 G H S D Q C W M P P L P S P S D Y R S 945  
 GGA CAC TCT GAC CAG TGC TGG ATG CCA CCA CTG CCC TCA CCG TCT TCT GAT TAT AGG AGT 3210  
  
 N M F I P G E E F P T Q P Q Q H P H Q 965  
 AAC ATG TTC ATT CCA GGG GAA GAA TTC CCA ACG CAA CCC CAG CAG CAG CAT CCA CAT CAG 3270  
  
 S L E D D A Q P A D S G E K K K S F S T 985  
 AGT CTT GAG GAT GAC GCT CAG CCT GCA GAT TCC GGT GAA AAG AAG AGT TTT TCC ACC 3330  
  
 F G K D S P N D E D T G D T S T S L L 1005  
 TTT GGA AAG GAC TCC CCA AAC GAT GAG GAC ACT GGG GAT ACC AGC ACA TCA TCT CTG CTC 3390  
  
 S E M S S V F Q R L L P P S L D T Y S E 1025  
 TCG GAA ATG AGC AGT GTG TTC CAG CGT CTC TTA CCG CCT TCC CTG GAC ACC TAT TCT GAA 3450  
  
 C S E V D R S N S L E R R K G P L P A K 1045  
 TGC AGT GAG GTG GAT CGG TCC AAC TCC CTG GAG CGC AGG AAG GGA CCC TTG CCA GCC AAA 3510

Fig. 1G

[illegible]

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|------|
| T   | T   | N   | C   | G   | P   | P   | L   | G   | T   | H   | S   | S   | V   | Q   | P   | S   | S   | K   | 'W  |  | 1085 |
| ACC | ACC | AAC | TGT | GGG | CCG | CCA | CTT | GGA | ACT | CAC | TCC | AGT | GTG | CAG | CCT | TCT | TCA | AAA | TGG |  | 3630 |

| L   | P   | A   | M   | E   | E   | I   | P   | E   | N   | Y   | E   | E   | D   | D   | F   | D   | N   | V   | L   | 1105 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| CTG | CCA | GCC | ATG | GAG | GAG | ATC | CCT | GAA | AAT | TAT | GAG | GAA | GAT | GAT | TTT | GAC | AAT | GTG | CTC | 3690 |

[illegible]

| N   | K   | L   | L   | Q   | D   | V   | R   | Q   | S   | *   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AAC | AAA | CTG | CTT | CAA | GAT | GTC | CGC | CAG | AGC | TAG |

GAGATTTAGCGAAGCATTTTGTGTTCCATGTATATGGAAATAGGAAACAACAACAACCAAAAACCCCTGAAAAGAAC 3862  
TGGCATTGCCAAAATAGTTGCATTTATCATAAAATGTCTGTGTATATTGAATATTAATACTGTATTTTCGTATGTACA 3941  
CAATGCAAGTGTGATTATTTAAATCTGTATTTTAAAAATACATTTGTACCTTATATTATGTGTAATTTAACAAACAAA 4020  
TTTTATTTTTTACTCCCATGACAGACATGTTTTTCCCTAGTCGTGTAGAAAACCTAGCCACTGTTCAAATCTGATACACTA 4099  
TTCAACCACAAGTGTAAAGGCACTGCTTAGATTAGTTTGTGTTGGGAAGAATTATTATGTTGTATGAAACAACCCCACT 4178  
GAAGCATTATACAATTTCTTAATTCATTAAGTGATCCCACTTTTTTCAATAAATTTTAGAAAATTAGAATCATTA 4257  
ATTGTTAAGCTATTTTATTTGTTATTTTCTCTACTTTCTACTAGCCCAATAGTTGAACTCTTTATAGGAAAATCGAAAGA 4336  
TAAAGTGAAAAGTTTATTTTCAGGACTGAGAAATATCTTGAAGGTTATTTATTAGATGACTATCTCAAATGAACTTTTTAT 4415

**Fig. 1H.**

AGACAATGATGAAACAGAACTAAAGTCAATGTTTCCCTGACTCCAGGCCCCCTACTATTCCAGGCCATCACACTGGCCT 4494  
 GTTCCGGAGAAATATTTCTCTCACAAATATTATTATCTACTTATAAATTATGGTAAACAATAAAATTTTATTTCCATCCTTGTA 4573  
 GTATGAAACATGCTCCAAGGAAATCTGTCCCTTAAATGGATAACAGTATGTGTTCTAATGGCATAAAATATTAC 4652  
 TGGATAAAAAACAGTTGTGTGTCAGTGTCTCTCCTAAGGTAGTAAATATAATTGACTTATTCTGAACCCCATTCATTATTGAA 4731  
 TCTCCCCCTTTCCTCTCACAAATACCTTGAAACATTTTAAATCTTTTGGAATATTGTCCTTTCTTTGTTATAACTATTTCATTTT 4810  
 AGCTTTTGTCCTCCAGTGCAATGATCTCATATTTTGTGCTTTTATTTTAGTATAAGAACATTTATAAAATCATATTTTGT 4889  
 TACTGCAATTGTTTATTTGTTGTGGCAAAATGAGAAATCCTTTATTTATTTGTGCTGTGATCTCTCTGTGTGGAATGC 4968  
 CTTGGTGAGAGAGATGCTTATTATGACTATTATCATTTCTGACCAAGCTTCTATTAAATGTTATTCTAATAATACACTA 5047  
 TCTTGATTGTACTCTCCAGAAAATTTTCTGTCAGTGAAAAATAAAGAAAAATTAAGTAAAAAATAAAAAA 5121

Fig. 11

GTTTAGTCTGCAGCCGAGCAGCTAAAGGGAGAAAGAAATCGCTCAGGAAAGACACACTGCAGACTCCACCGCACCTGC 79  
AATAGATGGTTCGACTACACAAGGAGAAAAACGGGAGGTGACACTCTCTGCTCTGGAAAGAGGACGAACGACCAAA 158  
CAAAACGCAAGGACTGGACTCCATGCCGAAGGTATCTGGAAGTCGTGACACGGTGTGTATAAAACAAAAGTTTGGGAGCT 237  
GTTAATTGCTGTGTGTTATTAAAGAGACGCTTTCAAGTTTCAAGTACCAAATGTAGCTTTACGTTGCCAAAGGAAGT 316

|   | M   | H   | Q   | M   | N   | 5    |
|---|---|-----|-----|-----|-----|------|
| 1 | TGAGGCAATTGCTTTTGCCTGTTTAACTTGCTCTGTGAGGGAATCTCATAAACTGACCA | ATG | CAC | CAA | ATG | AAAT |
| 2 |   |     |     |     |     | 390  |

| A    | K   | M   | H   | F   | R   | F   | V   | F   | A   | L   | L   | I   | V   | S   | F   | N   | H   | D   | V   | 25  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| GGCT | AAA | ATG | CAC | TTT | AGG | TTT | GTT | TTT | GCA | CTT | CTG | ATA | GTA | TCT | TTC | AAC | CAC | GAT | GTA | 450 |

| L   | G   | K   | N   | L   | K   | Y   | R   | I   | Y   | E   | E   | Q   | R   | V   | G   | S   | V   | I   | A   | 45  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| CTG | GGC | AAG | AAT | TTC | AAA | TAC | AGG | ATT | TAT | GAG | GAA | CAG | AGG | GTT | GGA | TCA | GTA | ATT | GCA | 510 |

[illegible]

F R A M Q R G N ~~S P L~~ L V V N E D N G E 85  
TTT CGA GCC ATG CAG AGG GGA AAT TCT CCT CTA CTT GTA GTA AAC GAG GAT AAT GGG GAA 630

| I   | S   | I   | G   | A   | T   | I   | D   | R   | E   | Q   | L   | C   | Q   | K   | N   | L   | N   | C   | S   | 105- |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| ATC | AGC | ATA | GGG | GCT | ACA | ATT | GAC | CGT | GAA | CAA | CTG | TGC | CAG | AAA | AAC | TTG | AAC | TGT | TGG | 690  |

**Fig. 2A**

1

**Fig. 2A**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| I   | E   | F   | D   | V   | I   | T   | L   | P   | T   | E   | H   | L   | Q   | L   | F   | H   | I   | E   | V   | 125  |
| ATA | GAG | TTT | GAT | GTG | ATC | ACT | CTA | CCC | ACA | GAG | CAT | CTG | CAG | CTT | TTC | CAT | ATT | GAA | GTT | 750  |
| E   | V   | L   | D   | I   | N   | D   | N   | S   | P   | Q   | F   | S   | R   | S   | L   | I   | P   | I   | E   | 145  |
| GAA | GTG | CTG | GAT | ATT | AAT | GAC | AAT | TCT | CCC | CAG | TTT | TCA | AGA | TCT | CTC | ATA | CCT | ATT | GAG | 810  |
| I   | S   | E   | S   | A   | A   | V   | G   | T   | R   | I   | P   | L   | D   | S   | A   | F   | D   | P   | D   | 165  |
| ATA | TCT | GAG | AGT | GCA | GCA | GTT | GGG | ACT | CGC | ATT | CCC | CTG | GAC | AGT | GCA | TTT | GAT | CCA | GAT | 870  |
| V   | G   | E   | N   | S   | L   | H   | T   | Y   | S   | L   | S   | A   | N   | D   | F   | F   | N   | I   | E   | 185  |
| GTT | GGG | GAA | AAT | TCC | CTC | CAC | ACA | TAC | TCG | CTC | TCT | GCC | AAT | GAT | TTT | TTT | AAT | ATC | GAG | 930  |
| V   | R   | T   | R   | T   | D   | G   | A   | K   | Y   | A   | E   | L   | I   | V   | V   | R   | E   | L   | D   | 205  |
| GTT | CGG | ACC | AGG | ACT | GAT | GGA | GCC | AAG | TAT | GCA | GAA | CTC | ATA | GTG | CTC | AGA | GAG | TTA | GAT | 990  |
| R   | E   | L   | K   | S   | S   | Y   | E   | L   | Q   | L   | T   | A   | S   | D   | M   | G   | V   | P   | Q   | 225  |
| CGG | GAG | CTG | AAG | TCA | AGC | TAC | GAG | CTT | CAG | CTC | ACT | GCC | TCA | GAC | ATG | GGA | GTA | CCT | CAG | 1050 |
| R   | S   | G   | S   | S   | I   | L   | K   | I   | S   | I   | S   | D   | S   | N   | D   | N   | S   | P   | A   | 245  |
| AGG | TCT | GGC | TCA | TCC | ATA | CTA | AAA | ATA | AGC | ATT | TCA | GAC | TCC | AAT | GAC | AAC | AGC | CCT | GCT | 1110 |
| F   | E   | Q   | Q   | S   | Y   | I   | I   | Q   | L   | L   | E   | N   | S   | P   | V   | G   | T   | L   | L   | 265  |
| TTT | GAG | CAG | CAA | TCT | TAT | ATA | ATA | CAA | CTC | TTA | GAA | AAC | TCC | CCG | GTT | GGC | ACT | TTG | CTC | 1170 |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| L   | D   | L   | N   | A   | T   | D   | P   | D   | E   | G   | A   | N   | G   | K   | I   | V   | Y   | S   | F   | 285  |
| TTA | GAT | CTG | AAT | GCC | ACG | GAT | CCA | GAT | GAG | GGC | GCT | AAT | GGG | AAA | ATT | GTA | TAT | TCC | TTC | 1230 |
| S   | S   | H   | V   | S   | P   | K   | I   | M   | E   | T   | F   | K   | I   | D   | S   | E   | R   | G   | H   | 305  |
| AGC | AGT | CAT | GTG | TCT | CCC | AAA | ATT | ATG | GAG | ACT | TTT | AAA | ATT | GAT | TCT | GAA | AGA | GGA | CAT | 1290 |
| L   | T   | L   | F   | K   | Q   | V   | D   | Y   | E   | I   | T   | K   | S   | Y   | E   | I   | D   | V   | Q   | 325  |
| TTG | ACT | CTT | TTC | AAG | CAA | GTG | GAT | TAT | GAA | ATC | ACC | AAA | TCC | TAT | GAG | ATT | GAT | GTT | CAG | 1350 |
| A   | Q   | D   | L   | G   | P   | N   | S   | I   | P   | A   | H   | C   | K   | I   | I   | I   | K   | V   | V   | 345  |
| GCT | CAA | GAT | TTG | GGT | CCA | AAT | TCA | ATC | CCA | GCC | CAT | TGC | AAA | ATT | ATA | ATT | AAG | GTT | GTG | 1410 |
| D   | V   | N   | D   | N   | K   | P   | E   | I   | N   | I   | N   | L   | M   | S   | P   | G   | K   | E   | E   | 365  |
| GAT | GTT | AAT | GAC | AAT | AAA | CCT | GAA | ATT | AAC | ATC | AAC | CTC | ATG | TCC | CCT | GGA | AAA | GAA | GAA | 1470 |
| I   | S   | Y   | I   | F   | E   | G   | D   | P   | I   | D   | T   | F   | V   | A   | L   | V   | R   | V   | Q   | 385  |
| ATA | TCT | TAT | ATT | TTT | GAA | GGG | GAT | CCT | ATT | GAT | ACA | TTT | GTT | GCT | TTG | GTC | AGA | GTT | CAG | 1530 |
| D   | K   | D   | S   | G   | L   | N   | G   | E   | I   | V   | C   | K   | L   | H   | G   | H   | G   | H   | F   | 405  |
| GAC | AAG | GAT | TCT | GGG | CTG | AAT | GGA | GAA | ATA | GTT | TGT | AAG | CTT | CAT | GGA | CAT | GGT | CAC | TTT | 1590 |
| K   | L   | Q   | K   | T   | Y   | E   | N   | N   | Y   | L   | I   | L   | T   | N   | A   | T   | L   | D   | R   | 425  |
| AAA | CTT | CAG | AAG | ACA | TAT | GAA | AAC | AAT | TAT | TTA | ATC | TTA | ACT | AAT | GCC | ACA | CTG | GAT | AGA | 1650 |

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Fig. 2C



E K R S E Y S L T V I A E D R G T P S L 445  
 GAA AAG AGA TCT GAG TAT AGT TTG ACT GTA ATC GCT GAG GAC AGG GGG ACA CCC AGT CTC 1710  
  
 S T V K H F T V Q I N D I N D N P P H F 465  
 TCT ACA GTG AAA CAT TTT ACA GTT CAA ATC AAT GAT ATC AAT GAC AAT CCA CCC CAC TTC 1770  
  
 Q R S R Y E F V I S E N N S P G A Y I T 485  
 CAG AGA AGC CGA TAT GAA TTT GTA ATT TCA GAA AAT AAC TCA CCA GGG GCA TAT ATC ACC 1830  
  
 T V T A T D P D L G E N G Q V T Y T I L 505  
 ACT GTT ACA GCC ACA GAT CCT GAT CTT GGA GAA AAT GGG CAA GTG ACA TAC ACC ATC TTG 1890  
  
 E S F I L G S S I T T Y V T I D P S N G 525  
 GAG AGT TTT ATT CTA GGA AGT TCC ATA ACT ACA TAT GTA ACC ATT GAC CCA TCT AAT GGA 1950  
  
 A I Y A L R I F D H E E V S Q I T F V V 545  
 GCC ATC TAT GCC CTC AGA ATC TTT GAT CAT GAA GAA GTG AGT CAG ATC ACT TTT GTG GTA 2010  
  
 E A R D G G S P K Q L V S N T T V V L T 565  
 GAA GCA AGA GAT GGA GGA AGC CCG AAG CAA CTG GTA AGC AAT ACC ACA GTT GTG CTC ACC 2070  
  
 I I D E N D N V P V V I G P A L R N N T 585  
 ATC ATT GAC GAA AAT GAC AAC GTT CCT GTG GTT ATA GGG CCT GCA TTG CGT AAT AAT ACG 2130

Fig. 2D

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| A   | E   | I   | T   | I   | P   | K   | G   | A   | E   | S   | G   | F   | H   | V   | T   | R   | I   | R   | A   | 605  |
| GCA | GAA | ATC | ACC | ATT | CCC | AAA | GGG | GCT | GAA | AGT | GGC | TTT | CAT | GTC | ACA | AGA | ATA | AGG | GCA | 2190 |
| I   | D   | R   | D   | S   | G   | V   | N   | A   | E   | L   | S   | C   | A   | I   | V   | A   | G   | N   | E   | 625  |
| ATT | GAC | AGA | GAC | TCT | GGT | GTG | AAT | GCT | GAA | CTC | AGC | TGC | GCC | ATA | GTA | GCA | GGT | AAT | GAG | 2250 |
| E   | N   | I   | F   | I   | I   | D   | P   | R   | S   | C   | D   | I   | H   | T   | N   | V   | S   | M   | D   | 645  |
| GAG | AAT | ATC | TTC | ATA | ATT | GAT | CCA | CGA | TCA | TGT | GAC | ATC | CAT | ACC | AAC | GTT | AGC | ATG | GAT | 2310 |
| S   | V   | P   | Y   | T   | E   | W   | E   | L   | S   | V   | I   | I   | Q   | D   | K   | G   | N   | P   | Q   | 665  |
| TCT | GTT | CCC | TAC | ACA | GAA | TGG | GAG | CTG | TCA | GTT | ATC | ATT | CAG | GAC | AAA | GGC | AAT | CCT | CAG | 2370 |
| L   | H   | T   | K   | V   | L   | L   | K   | C   | M   | I   | F   | E   | Y   | A   | E   | S   | V   | T   | S   | 685  |
| CTA | CAT | ACC | AAA | GTC | CTT | CTG | AAG | TGC | ATG | ATC | TTT | GAA | TAT | GCA | GAG | TCG | GTG | ACA | AGT | 2430 |
| T   | A   | M   | T   | S   | V   | S   | Q   | A   | S   | L   | D   | V   | S   | M   | I   | I   | I   | I   | S   | 705  |
| ACA | GCA | ATG | ACT | TCA | GTA | AGC | CAG | GCA | TCC | TTG | GAT | GTC | TCC | ATG | ATA | ATA | ATT | ATT | TCC | 2490 |
| L   | G   | A   | I   | C   | A   | V   | L   | L   | V   | I   | M   | V   | L   | F   | A   | T   | R   | C   | N   | 725  |
| TTA | GGA | GCA | ATT | TGT | GCA | GTG | TTG | CTG | GTT | ATT | ATG | GTG | CTA | TTT | GCA | ACT | AGG | TGT | AAC | 2550 |
| R   | E   | K   | K   | D   | T   | R   | S   | Y   | N   | C   | R   | V   | A   | E   | S   | T   | Y   | Q   | H   | 745  |
| CGC | GAG | AAG | AAA | GAC | ACT | AGA | TCC | TAT | AAC | TGC | AGG | GTG | GCC | GAA | TCA | ACT | TAC | CAG | CAC | 2610 |

Fig. 2E



# TABLE 2

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| L   | T   | D   | G   | R   | I   | P   | A   | A   | M   | R   | L   | C   | T   | E   | E   | C   | R   | V   | L   | 924  |
| CTC | ACA | GAT | GGA | AGA | ATT | CCA | GCA | GCT | ATG | AGA | CTC | TGC | ACG | GAG | GAG | TGC | AGG | GTC | CTG | 3147 |
| G   | H   | S   | D   | Q   | C   | W   | M   | P   | P   | L   | P   | S   | P   | S   | S   | D   | Y   | R   | S   | 944  |
| GGA | CAC | TCT | GAC | CAG | TGC | TGG | ATG | CCA | CCA | CTG | CCC | TCA | CCG | TCT | TCT | GAT | TAT | AGG | AGT | 3207 |
| N   | M   | F   | I   | P   | G   | E   | E   | F   | P   | T   | Q   | P   | Q   | Q   | Q   | H   | P   | H   | Q   | 964  |
| AAC | ATG | TTC | ATT | CCA | GGG | GAA | GAA | TTC | CCA | ACG | CAA | CCC | CAG | CAG | CAG | CAT | CCA | CAT | CAG | 3267 |
| S   | L   | E   | D   | D   | A   | Q   | P   | A   | D   | S   | G   | E   | K   | K   | K   | S   | F   | S   | T   | 984  |
| AGT | CTT | GAG | GAT | GAC | GCT | CAG | CCT | GCA | GAT | TCC | GGT | GAA | AAG | AAG | AAG | AGT | TTT | TCC | ACC | 3327 |
| F   | G   | K   | D   | S   | P   | N   | D   | E   | D   | T   | G   | D   | T   | S   | T   | S   | S   | L   | L   | 1004 |
| TTT | GGA | AAG | GAC | TCC | CCA | AAC | GAT | GAG | GAC | ACT | GGG | GAT | ACC | AGC | ACA | TCA | TCT | CTG | CTC | 3387 |
| S   | E   | M   | S   | S   | V   | F   | Q   | R   | L   | L   | P   | P   | S   | L   | D   | T   | Y   | S   | E   | 1024 |
| TCG | GAA | ATG | AGC | AGT | GTG | TTC | CAG | CGT | CTC | TTA | CCG | CCT | TCC | CTG | GAC | ACC | TAT | TCT | GAA | 3447 |
| C   | S   | E   | V   | D   | R   | S   | N   | S   | L   | E   | R   | R   | K   | G   | P   | L   | P   | A   | K   | 1044 |
| TGC | AGT | GAG | GTG | GAT | CGG | TCC | AAC | TCC | CTG | GAG | CGC | AGG | AAG | GGA | CCC | TTG | CCA | GCC | AAA | 3507 |
| T   | V   | G   | Y   | P   | Q   | G   | V   | A   | A   | W   | A   | A   | S   | T   | H   | F   | Q   | N   | P   | 1064 |
| ACT | GTG | GGT | TAC | CCA | CAG | GGG | GTA | GCG | GCA | TGG | GCA | GCC | AGT | ACG | CAT | TTT | CAA | AAT | CCC | 3567 |

Fig. 2G

T T N C G P P L G T H S S V Q P S S K W 1084  
ACC ACC AAC TGT GGG CCG CCA CTT GGA ACT CAC TCC AGT GTG CAG CCT TCT TCA AAA TGG 3627

L P A M E E I P E N Y E D D F D N V L 1104  
CTG CCA GCC ATG GAG GAG ATC CCT GAA AAT TAT GAG GAA GAT GAT TTT GAC AAT GTG CTC 3687

N H L N D G K H E L M D A S E L V A E I 1124  
AAC CAC CTC AAT GAT GGG AAA CAC GAA CTC ATG GAT GCC AGT GAA CTG GTG GCA GAG ATT 3747

N K L L Q D V R Q S \* 1134  
AAC AAA CTG CTT CAA GAT GTC CGC CAG AGC TAG 3780

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GAGATTTAGCGAAGCATTTTGTTCATGTATATGAAATAGGGAACAACAACAACAAAAACCCGTGAAAGAAC 3859  
TGGCATTGCCAAATAGTTGCATTTATCATAAATGTGTCTGTGTATATTGAATATTAAATACTGTATTTTCGTATGTACA 3938  
CAATGCAAGTGTGATTATTTAATCTGTATTTTAAATAACATTTGTACCTTATATTTATGTGTAAATTTAAACAACAAA 4017  
TTTTATTTTTTTACTCCCATGACAGACATGTTTTTCCCTAGTCGTAGAAACTAGCCACTGTTCAAACTCTGATACACTA 4096  
TTCAACCACAAAGTGTAAGGCCACTGCTTAGATTAGTTTTTGTGGGAAGAAATTATTATGTTGTATGAACAACCCCACT 4175  
GAAGCATTATACAAATTCCTTAATTCATTAAGTGATCCCACTTTTTCATAAATCTTTTAGAAAATTAAAGAAATCATTA 4254  
ATTGTTAAGCTATTTTATTTGTTATTTTCTCTACTTCTACTAGCCCCCAATAGTTGAACCTCTTATAGGAAAATCGAAA 4333  
TAAAGTAAAAGTTTATTTTCAGGACTGAGAAAATATCTTGAAGTTATTTATTAGATGACTATCTCAAAATGAACTTTTAT 4412  
AGACAAATGATGAAAACAGAACTAAAGTCAATGTTTCCCTGACTCCCGCCCTACTATTTCCAGGCCATCACACTGGCCT 4491  
GTTCCGGAGAATATTTCTCTCAAAATATATATCTACTTATAAATTATGTAACAATAAATTTTATTTCCATCCTTGTA 4570  
GTATGAAACATGCTCCCAAGGAAATCTGTCTTTAAATGATAACAGTATGTGTTCTAATGGCATAAAATATTAC 4649  
TGGATAAAAACAGTTGTGTGTCCTCTCCTAAGGTAGTAAATATAATTGACTTATTCTGAACCCATTTCTATTGAA 4728

Fig. 2H

TCTCCCCCTTCCCTCACAATACTTGAACATTTTAAATCTTTTGGAAATATTGTCTTTCTTTGTTATAACTATTTCATTTT 4807  
 AGCTTTTGTCTCCAGTGCATGATCTCATATTTTGTGCTTTTATTTTAGTATAAGAACATTTATAAAATCATAATTTTGT 4886  
 TACTGCAATTGTTTATTGTTGTGGCAAAATGAGAAATCCCTTTATTTATTGTCGTGATCTCTCTGTGGAAATGC 4965  
 CTTGGTGAGAGAGATGCTTATTATGACTATTATCATTTCTGACCAAGCTTCTATTAATGTTATTTCTAAATAATACACTA 5044  
 TCTTGATTGTACTCTCCAGAAATTTTCTGTCTGAGTGAATAAAAGAAAAATTAAGTAAAAAATAAAAAA 5118

Fig. 2I

|          |      |  |      |
|----------|------|--|------|
| T416     | 1651 | GAAAAGAGATCTGAGTATAGTTTGACTGTAAATCGCTGAGGACAGGGGGAC  | 1700 |
| AL137471 | 1    | ...AAGAGATCTGAGTATAGTTTGACTGTAAATCGCTGAGGACAGGGGGAC  | 47   |
| T416     | 1701 | ACCCAGTCTCTCTACAGTGAAACATTTTACAGTTCAAATCAATGATATCA   | 1750 |
| AL137471 | 48   | ACCCAGTCTCTCTACAGTGAAACATTTTACAGTTCAAATCAATGATATCA   | 97   |
| T416     | 1751 | ATGACAAATCCACCCCACTTCCAGAGAAGCCGATATGAAATTTGTAAATTCA | 1800 |
| AL137471 | 98   | ATGACAAATCCACCCCACTTCCAGAGAAGCCGATATGAAATTTGTAAATTCA | 147  |
| T416     | 1801 | GAAAATAACTCACAGGGGCATATATCACCACTGTACAGCCACAGATCC     | 1850 |
| AL137471 | 148  | GAAAATAACTCACAGGGGCATATATCACCACTGTACAGCCACAGATCC     | 197  |
| T416     | 1851 | TGATCTTGGAGAAAAATGGGCAAGTGACATACACCATCTTGGAGAGTTTAA  | 1900 |
| AL137471 | 198  | TGATCTTGGAGAAAAATGGGCAAGTGACATACACCATCTTGGAGAGTTTAA  | 247  |
| T416     | 1901 | TTCTAGGAAGTTCCTAATACTACATATGTAAACCATTGACCCATCTAATGGA | 1950 |
| AL137471 | 248  | TTCTAGGAAGTTCCTAATACTACATATGTAAACCATTGACCCATCTAATGGA | 297  |

FIG. 4A

|          |      |  |      |
|----------|------|--|------|
| T416     | 1951 | GCCATCTATGCCCTCAGAAATCTTTGATCATGAAGAAGTGAGTCAGATCAC    | 2000 |
| AL137471 | 298  | GCCATCTATGCCCTCAGAAATCTTTGATCATGAAGAAGTGAGTCAGATCAC    | 347  |
| T416     | 2001 | TTTTGTGTAGAAGCAAGAGATGGAGGAAAGCCCGAAGCAACTGGTAAGCA     | 2050 |
| AL137471 | 348  | TTTTGTGTAGAAGCAAGAGATGGAGGAAAGCCCGAAGCAACTGGTAAGCA     | 397  |
| T416     | 2051 | ATACCACAGTTGTGCTCACCATCATTTGACGAAAAATGACAAACGTTCCCTGTG | 2100 |
| AL137471 | 398  | ATACCACAGTTGTGCTCACCATCATTTGACGAAAAATGACAAACGTTCCCTGTG | 447  |
| T416     | 2101 | GTTATAGGGCCTGCATTGCGTAATAATACGGCAGAAATCACCATTCCCAA     | 2150 |
| AL137471 | 448  | GTTATAGGGCCTGCATTGCGTAATAATACGGCAGAAATCACCATTCCCAA     | 497  |
| T416     | 2151 | AGGGGCTGAAAAGTGGCTTTTCATGTCAACAAGAAATAAGGGCAATTGACAGAG | 2200 |
| AL137471 | 498  | AGGGGCTGAAAAGTGGCTTTTCATGTCAACAAGAAATAAGGGCAATTGACAGAG | 547  |
| T416     | 2201 | ACTCTGGTGTGAATGCTGAACCTCAGCTGCGCCCATAGTAGCAGGTAATGAG   | 2250 |
| AL137471 | 548  | ACTCTGGTGTGAATGCTGAACCTCAGCTGCGCCCATAGTAGCAGGTAATGAG   | 597  |

FIG. 4B



|          |      |  |      |
|----------|------|--|------|
| T416     | 2251 | GAGAAATATCTTCATAAATTGATCCACGATCATGTGACATCCATACCAACGT | 2300 |
| AL137471 | 598  | GAGAAATATCTTCATAAATTGATCCACGATCATGTGACATCCATACCAACGT | 647  |
| T416     | 2301 | TAGCATGGATTCTGTTCCTACACAGAAATGGAGCTGTGAGTTATCATTC    | 2350 |
| AL137471 | 648  | TAGCATGGATTCTGTTCCTACACAGAAATGGAGCTGTGAGTTATCATTC    | 697  |
| T416     | 2351 | AGGACAAAGGCAATCCTCAGCTACATACCAAGTCCCTTCTGAAGTGCAATG  | 2400 |
| AL137471 | 698  | AGGACAAAGGCAATCCTCAGCTACATACCAAGTCCCTTCTGAAGTGCAATG  | 747  |
| T416     | 2401 | ATCTTTGAATATGCAGAGTCGGTGACAAAGTACAGCAATGACTTCAGTAAG  | 2450 |
| AL137471 | 748  | ATCTTTGAATATGCAGAGTCGGTGACAAAGTACAGCAATGACTTCAGTAAG  | 797  |
| T416     | 2451 | CCAGGCATCCTTGGATGTCTCCATGATAATAATTATTTCCCTTAGGAGCAA  | 2500 |
| AL137471 | 798  | CCAGGCATCCTTGGATGTCTCCATGATAATAATTATTTCCCTTAGGAGCAA  | 847  |
| T416     | 2501 | TTTGTGCAGTGTGCTGGTTATTATGGTGCTATTTCGCAACTAGGTGTAAC   | 2550 |
| AL137471 | 848  | TTTGTGCAGTGTGCTGGTTATTATGGTGCTATTTCGCAACTAGGTGTAAC   | 897  |

FIG. 4C

|          |      |  |      |
|----------|------|--|------|
| T416     | 2551 | CGCGAGAAAGACACTAGATCCTATAACTGCAGGGTGGCCGAAATCAAC       | 2600 |
| AL137471 | 898  | CGCGAGAAAGACACTAGATCCTATAACTGCAGGGTGGCCGAAATCAAC       | 947  |
| T416     | 2601 | TTACCAGCACCAACCAAAAGGCCATCCCGGCAGATTCACAAAGGGGACA      | 2650 |
| AL137471 | 948  | TTACCAGCACCAACCAAAAGGCCATCCCGGCAGATTCACAAAGGGGACA      | 997  |
| T416     | 2651 | TCACATTGGTGCCCTACCATAAAATGGCACTCTGCCCATCAGATCTCATCAC   | 2700 |
| AL137471 | 998  | TCACATTGGTGCCCTACCATAAAATGGCACTCTGCCCATCAGATCTCATCAC   | 1047 |
| T416     | 2701 | AGATCGTCTCCATCTTCATCTCCTACCTTAGAAAGAGGCAGATGGGCAG      | 2750 |
| AL137471 | 1048 | AGATCGTCTCCATCTTCATCTCCTACCTTAGAAAGAGGCAGATGGGCAG      | 1097 |
| T416     | 2751 | CCGGCAGAGTCACAACAGTCACCAGTCACCTCAACAGTTTGGTGACAAATCT   | 2800 |
| AL137471 | 1098 | CCGGCAGAGTCACAACAGTCACCAGTCACCTCAACAGTTTGGTGACAAATCT   | 1147 |
| T416     | 2801 | CATCAAAACCAACGTGCCAGAGAAATTTCTCATTTAGAACTCACCCACGCCACT | 2850 |
| AL137471 | 1148 | CATCAAAACCAACGTGCCAGAGAAATTTCTCATTTAGAACTCACCCACGCCACT | 1197 |

FIG. 4D

|          |      |  |      |
|----------|------|--|------|
| T416     | 2851 | CCTGCTGTGAGCAGGTCTCTCAGCTTCTTTCAATGCTTCAACAGGGCA   | 2900 |
|          |      |  |      |
| AL137471 | 1198 | CCTGCTGTGAGCAGGTCTCTCAGCTTCTTTCAATGCTTCAACAGGGCA   | 1247 |
|          |      |  |      |
| T416     | 2901 | ATATCAGCCAAGACCAAGTTTTCGAGGAAACAAATATTCAGGAGCTACA  | 2950 |
|          |      |  |      |
| AL137471 | 1248 | ATATCAGCCAAGACCAAGTTTTCGAGGAAACAAATATTCAGGAGCTACA  | 1297 |
|          |      |  |      |
| T416     | 2951 | GATATGCCCTTCAAGACATGGACAAATTTAGCTTGAAAGACAGTGGCCGT | 3000 |
|          |      |  |      |
| AL137471 | 1298 | GATATGCCCTTCAAGACATGGACAAATTTAGCTTGAAAGACAGTGGCCGT | 1347 |
|          |      |  |      |
| T416     | 3001 | GGTGACAGTGAGGCAGGAGACAGTGATTAATGATTGGGGCAGATTCTCC  | 3050 |
|          |      |  |      |
| AL137471 | 1348 | GGTGACAGTGAGGCAGGAGACAGTGATTAATGATTGGGGCAGATTCTCC  | 1397 |
|          |      |  |      |
| T416     | 3051 | AATAGATAGGCTGCTGGGTGAAGGATTCAGCGACCTGTTTCTCACAGATG | 3100 |
|          |      |  |      |
| AL137471 | 1398 | AATAGATAGGCTGCTGGGTGAAGGATTCAGCGACCTGTTTCTCACAGATG | 1447 |
|          |      |  |      |
| T416     | 3101 | GAAGAATTCAGCAGCTATGAGACTCTGCACGGAGAGTGCAGGGTCCCTG  | 3150 |
|          |      |  |      |
| AL137471 | 1448 | GAAGAATTCAGCAGCTATGAGACTCTGCACGGAGAGTGCAGGGTCCCTG  | 1497 |

FIG. 4E

|          |      |   |      |
|----------|------|---|------|
| T416     | 3151 | GGACACTCTGACCAGTGTGGATGCCACCACCTGCCCTCACCGTCTTCTGA  | 3200 |
| AL137471 | 1498 | GGACACTCTGACCAGTGTGGATGCCACCACCTGCCCTCACCGTCTTCTGA  | 1547 |
| T416     | 3201 | TTATAGGAGTAACATGTTTCATTCCAGGGGAAGAATTCCCAACGCAACCCC | 3250 |
| AL137471 | 1548 | TTATAGGAGTAACATGTTTCATTCCAGGGGAAGAATTCCCAACGCAACCCC | 1597 |
| T416     | 3251 | AGCAGCAGCATCCACATCAGAGTCTTGAGGATGACGCTCAGCCTGCAGAT  | 3300 |
| AL137471 | 1598 | AGCAGCAGCATCCACATCAGAGTCTTGAGGATGACGCTCAGCCTGCAGAT  | 1647 |
| T416     | 3301 | TCCGGTGAAAAGAAAGAGTTTTCACCTTTGGAAAAGGACTCCCCAAA     | 3350 |
| AL137471 | 1648 | TCCGGTGAAAAGAAAGAGTTTTCACCTTTGGAAAAGGACTCCCCAAA     | 1697 |
| T416     | 3351 | CGATGAGGACACTGGGGATACCAGCACATCATCTCTGCTCTCGGAAAATGA | 3400 |
| AL137471 | 1698 | CGATGAGGACACTGGGGATACCAGCACATCATCTCTGCTCTCGGAAAATGA | 1747 |
| T416     | 3401 | GCAGTGTGTTCCAGCGTCTCTTACCGCCTTCCCTGGACACCTATTCTGAA  | 3450 |
| AL137471 | 1748 | GCAGTGTGTTCCAGCGTCTCTTACCGCCTTCCCTGGACACCTATTCTGAA  | 1797 |

FIG. 4F

|          |      |   |      |
|----------|------|---|------|
| T416     | 3451 | TGCAGTGAGGTGGATCGGTCCAACTCCCTGGAGCGCAGGAAGGACCCCTT  | 3500 |
| AL137471 | 1798 | TGCAGTGAGGTGGATCGGTCCAACTCCCTGGAGCGCAGGAAGGACCCCTT  | 1847 |
| T416     | 3501 | GCCAGCCAAAACCTGTGGGTTACCCACAGGGGTAGCGGCATGGGCAGCCA  | 3550 |
| AL137471 | 1848 | GCCAGCCAAAACCTGTGGGTTACCCACAGGGGTAGCGGCATGGGCAGCCA  | 1897 |
| T416     | 3551 | GTACGCATTTTCAAAAATCCCACACCACTGTGGGCCGCCACTTGGAACCT  | 3600 |
| AL137471 | 1898 | GTACGCATTTTCAAAAATCCCACACCACTGTGGGCCGCCACTTGGAACCT  | 1947 |
| T416     | 3601 | CACTCCAGTGTGCAGCCTTCTTCAAAAATGGCTGCCAGCCATGGAGGAGAT | 3650 |
| AL137471 | 1948 | CACTCCAGTGTGCAGCCTTCTTCAAAAATGGCTGCCAGCCATGGAGGAGAT | 1997 |
| T416     | 3651 | CCCTGAAAAATTATGAGGAAGATGATTTTGACAAATGTGCTCAACCACTCA | 3700 |
| AL137471 | 1998 | CCCTGAAAAATTATGAGGAAGATGATTTTGACAAATGTGCTCAACCACTCA | 2047 |
| T416     | 3701 | ATGATGGGAAACACGAACTCATGGATGCCAGTGAACTGGTGGCAGAGATT  | 3750 |
| AL137471 | 2048 | ATGATGGGAAACACGAACTCATGGATGCCAGTGAACTGGTGGCAGAGATT  | 2097 |

FIG. 4G

T416 3751 AACAACTGCTTCAAGATGTCCGCCAGAGCTAGGAGATTTTAGCGAAGCA 3800  
 AL137471 2098 AACAACTGCTTCAAGATGTCCGCCAGAGCTAGGAGATTTTAGCGAAGCA 2147  
 T416 3801 TTTTGTGTTCCATGTATATGGAAATAGGGAACAACAACAACAAAAA 3850  
 AL137471 2148 TTTTGTGTTCCATGTATATGGAAATAGGGAACAACAACAACAAAAA 2197  
 T416 3851 CCCTGAAAGAACTGGCATTGCCAAATAGTTGCATTTATCATAAATGTGTC 3900  
 AL137471 2198 CCCTGAAAGAACTGGCATTGCCAAATAGTTGCATTTATCATAAATGTGTC 2247  
 T416 3901 TGTGTATATTGAATATTAAATACTGTATTTTCGTATGTACACAATGCAAG 3950  
 AL137471 2248 TGTGTATATTGAATATTAAATACTGTATTTTCGTATGTACACAACAAAAA 2297  
 T416 3951 TGTGATTATTTTAAATCTGTATTTTAAAAATACATTTGTACCTTATATTA 4000  
 AL137471 2298 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAG..... 2338

FIG. 4H

|      |     |   |               |        |     |
|------|-----|---|---------------|--------|-----|
| T416 | 1   | ..ATGCACCAAATG..AATGCTAAAAATGCAC                    | TTAGGTTTGT    | TTTGCA | 45  |
|      |     |   |               |        |     |
| m-PC | 1   | ATGATGCTACTTCTGCCATTCTGCTAGGGCTCTTAGGGCCAGGAAGCTA   |               |        | 50  |
|      |     |   |               |        |     |
| T416 | 46  | CTTCTGATAGTATCTTTCAACCAACGATGTA                     | CTGGGCA...    | AGAA   | 92  |
|      |     |   |               |        |     |
| m-PC | 51  | CT..TGTTCAATTCAGGGGATTGTCAGGAGGTGGCCACTGTCA         | TGGTGAA       |        | 98  |
|      |     |   |               |        |     |
| T416 | 93  | ATACAGGATTTATGAGGAACAGAGGGTTGGATCAGTA               | ATTGCAAGACTAT |        | 142 |
|      |     |   |               |        |     |
| m-PC | 99  | ATTCCAAGTGACAGAGGAAGTGCCGCTCTGGCACGGTGATAGGGAAACTGT |               |        | 148 |
|      |     |   |               |        |     |
| T416 | 143 | CAGAGGATGTGGCTGATGTTTTATTGAAGCTTCCCTAATCCTTCTACTGTT |               |        | 192 |
|      |     |   |               |        |     |
| m-PC | 149 | CCCAAGAACT..AAGA.GTGGAGGAGAGGCGTGGGAAGGCAGGAGATG..  |               |        | 193 |
|      |     |   |               |        |     |
| T416 | 193 | CGATTTTCGAGCCATGCAGAGGGGAAATTCTCCTCTACTTGTAGTAAACGA |               |        | 242 |
|      |     |   |               |        |     |
| m-PC | 194 | CCTTCCAGATTC.TGCAGCTGCCTCAGGCACTGCCGGTTCAGATGA      | ACTC          |        | 242 |

FIG. 5A

|      |     |  |     |
|------|-----|--|-----|
| T416 | 243 | GGATAATGGGAAATCAGCATAGGGGCTACAATTGACCGTGAACAACTGT    | 292 |
| m-PC | 243 | TGAGACGGCCTGTCTCAGCACTTCCAGCCGGCTGGATCGGAGAAGCTAT    | 292 |
| T416 | 293 | GCCAGAAAACCTTGAACCTGTTCATAGAGTTTGATGTGATCACTCTACCC   | 342 |
| m-PC | 293 | GTCGGCAGGAAGATCCCTGTCTGGTGTCAATTGACGTG.....CTTGCC    | 336 |
| T416 | 343 | ACA.GAGCATCTGCAGCTTTTCCATATTGAAGTTGAAGTCTGGATATTA    | 391 |
| m-PC | 337 | ACAGGGCGTCTGC.TCTAATTCAATGTGGAGATTCAAGTCTAGACATCA    | 385 |
| T416 | 392 | ATGACAAATTCTCCCCAGTTTTCAGATCTCTCATACCTATTGAGATATCT   | 441 |
| m-PC | 386 | ATGACCACCCAGCCACAGTTTCCCAAAGACGAGCAGGAACCTGGAAATCTCA | 435 |
| T416 | 442 | GAGAGTGCAGCAGTTGGGACTCGCATTCCTCCCTGGACAGTGCATTGATCC  | 491 |
| m-PC | 436 | GAGAGTGCCTCTCTGCACACACGAATCCCCTTGGACAGAGCTCTTGACCA   | 485 |

FIG. 5B



|      |     |  |     |
|------|-----|--|-----|
| T416 | 492 | AGATGTTGGGAAATTCCTCCACACATACTCGCTCTCTGCCAATGATT      | 541 |
| m-PC | 486 | AGACACGGGTCCTAACAGCTTATATTCCTACTCCCTGTCTCCCAAGTGAAC  | 535 |
| T416 | 542 | TTTTTAATATCGAGGTTCCGACCAGGACTGATGGAGCCAAGTATGCAGAA   | 591 |
| m-PC | 536 | ACTTTGCCCTGGATGTTATTGTGGGCCCTGATGAGACCAACAATGCAGAG   | 585 |
| T416 | 592 | CTCATAGTGGTCAGAGAGTTAGATCGGGAGCTGAAAGTCAAGCTACGAGCT  | 641 |
| m-PC | 586 | CTTGTTGGTGAAGGAGTTGGACAGGGAACCTCCACTCATATTTTGATCT    | 635 |
| T416 | 642 | TCAGCTCACTGCCCTCAGAC.ATGGGAGTACCTCAGAGGTCCTGGCTCATCC | 690 |
| m-PC | 636 | GGTGCTGACCGCCTATGACAAATGGGAAT.CCCCCTAAGTCAGGGAATCAGC | 684 |
| T416 | 691 | ATACTAAAAAATAGCATTTTCAGACTCCAATGACAAACAGCCCTGCTTTGA  | 740 |
| m-PC | 685 | GTGGTCAAGGTCAATGTCTCTGGACTCCAATGACAAATAGTCCAGTGTTTGC | 734 |

FIG. 5C

|      |     |   |     |
|------|-----|---|-----|
| T416 | 741 | GCAGCAATCTTATATAATACTCTTAGAAAACTCCCCGGTTGGCACTT       | 790 |
| m-PC | 735 | TGAGAGTTCACCTAGCACTAGAAATCCCAGAAAGACACTGTTCTCTGGTACTC | 784 |
| T416 | 791 | TGCTCTTAGATCTGAATGCCACGGATCCAGATGAGGGCGCTAATGGGAAA    | 840 |
| m-PC | 785 | TTCTCATAAACCTGACTGCTACAGATCCCGACCAAGGACCCCAATGGGGAG   | 834 |
| T416 | 841 | ATTGTATATTCCTTCAGCAGTCAATGTGTCTCCCAAATTTATGGAGACTTT   | 890 |
| m-PC | 835 | GTAGAGTTCTTCTTTGGCAAGCAATGTGTCTCCCAAGAGGTGATGAACACCTT | 884 |
| T416 | 891 | TAAAAATTGATTCTGAAAAGAGGACATTTTGACTCTTTTCAAGCAAGTGGATT | 940 |
| m-PC | 885 | TGGCATAGATGCCAAGACAGGCCAGATCATTTCTGCGCCAAGCCCCTAGATT  | 934 |
| T416 | 941 | ATGAAATCACCAAATCCCTATGAGATTGATGTTCAAGGCTCAAGATTGCGGT  | 990 |
| m-PC | 935 | ACGAGAAGAAACCTGCCTATGAGGTGGATGTCCAGGCAAGGATTGCGGT     | 984 |

FIG. 5D

|      |      |   |      |
|------|------|---|------|
| T416 | 991  | CCAAATTCAATCCCAGCCCATTTGCAAAATTATAATTAAAGTTGTGGATGT | 1040 |
| m-PC | 985  | CCCAATTCCATCCCAGGCCATTGCAAAAGTTCTTATCAAAGTTCTGGATGT | 1034 |
| T416 | 1041 | TAATGACAATAAACCTGAAATTAAACATCAACCTCATGTCCCCTGGAAAAG | 1090 |
| m-PC | 1035 | CAATGACAATGCCCC.....AAGCATCCTCATCACGT...GGCCTCC     | 1074 |
| T416 | 1091 | AAGAAATATCTTATATTTTGAAGGGGATCCTATTGATACATTTGTTGCT   | 1140 |
| m-PC | 1075 | CAGACGTCGCT..GGTGCAGAAGATCTTCCCAGGATAGCTTCATTGCC    | 1122 |
| T416 | 1141 | TTGGTCAGAGTTCAGGACAAGGATTCTGGGCTGAATGGAGAAATAGTTTG  | 1190 |
| m-PC | 1123 | CTTGTCAGTGCGAATGACTTGGACTCAGGAAACAACGGTCTCGTCCACTG  | 1172 |
| T416 | 1191 | TAAGCT...TCATGGACATGGTCACCTTTAACTTCAGAAGACATATGAAA  | 1237 |
| m-PC | 1173 | TTGGCTGAATCAAGAGCTGGGCCACTTCAGACTGAAAAGGACTAACGGCA  | 1222 |

FIG. 5E

**FIG. 5F**

|      |      |  |      |
|------|------|--|------|
| T416 | 1486 | GAAAATGGGCAAGTGACATACACCATCTTGGA.GAGTTTATTCT.AGGA    | 1533 |
| m-PC | 1471 | AGTAATGGAAGTGTATACCGTATCAAGGACTCCCCCGTTTCTCACTT      | 1520 |
| T416 | 1534 | AGTTCCATAACTACATATGTAACCAATTGA...CCCATCTAATGGAGCCAT  | 1580 |
| m-PC | 1521 | AGT..CATTATTGACTTTTGAAACAGGAGAAGTCACTGCTCAGAGGTCACT  | 1568 |
| T416 | 1581 | ...CTATGCCC...TCAGAAATCTTTGA..TC...ATGA.AGAAGTGAGTC  | 1618 |
| m-PC | 1569 | GGACTATGAACAGATGGCAGGCTTTGAGTTCAGGTGATAGCAGAG.GAC    | 1617 |
| T416 | 1619 | AGATCAC.TTTTGTGTAGAAAGCAAGAGATGGAGGAAGCCCGAAGCAACT   | 1667 |
| m-PC | 1618 | AGAGGGCAACCCAGCTCGCATCCAG.CATCTCGGTGTGGGTAGCCCTCT    | 1666 |
| T416 | 1668 | GGTAAGC.....AATACCACAGTTGTG.CTCACC.....ATCATTGAC     | 1704 |
| m-PC | 1667 | TGGATGCCAATGATAATGCCCCAGAAAGTGATTCAGCCCTGTGCTCAGTGAA | 1716 |

FIG. 5G

|      |      |   |      |
|------|------|---|------|
| T416 | 1705 | GAATAATGACAAACGTTCTGTGGTTATA.....GGGCC.....           | 1736 |
| m-PC | 1717 | GGCAAAGCCACCCCTTTTCGGTGTCTTGTAATGCCTCCACGGGCCACCTTCT  | 1766 |
| T416 | 1737 | ..TG..CATTGCGTA.....AT.AATACGGCAGAAATCACCATTCT        | 1771 |
| m-PC | 1767 | GTTGCCCATTTGAGAAATCCACAGTGGCATGGATCCAGCAGGTACTGGTATAC | 1816 |
| T416 | 1772 | ..CCAAAGG.GGCTGAAAG....TGG.CTTT.CATGTCACAAGAATAAGG    | 1812 |
| m-PC | 1817 | CACCAAAGGCTACCCACAGCCCCCTGGTCTTTTCCTTTTGTAAACAATCGTG  | 1866 |
| T416 | 1813 | GCAATTGACAGAGACTCTGGTGTGAATGCTGAACCTCAGCTGCGCCATAGT   | 1862 |
| m-PC | 1867 | GCTAGGGATGCAGACTCGGGGGCCAAATGGGGAACCTCTCTACAGCATTCA   | 1916 |
| T416 | 1863 | AGCAGGTAATGAGGAGAAATATCTTCATAAATTGATCCACGATCATGTGACA  | 1912 |
| m-PC | 1917 | AAGTGGGAATGATGCTCATCTCTT.TTTCCTCAGCC.CTTCCTTGGGGCA    | 1964 |

FIG. 5H

|      |      |   |      |
|------|------|---|------|
| T416 | 1913 | TCCAT..ACCAACGTTAGC.ATGGATTCTGTTCCTACACAG..AATGGG   | 1957 |
| m-PC | 1965 | GCTATTCAATTAATGTCACCAATGCCAGCAGCCTCATCGGGAGTCAGTGGG | 2014 |
| T416 | 1958 | AGCTGTCAGTTATCATTCAGGACAAAGGCAATCCTCAGCTACATACCAA   | 2007 |
| m-PC | 2015 | ACCTGGGATAGTGGTAGAGGACCAGGGCAGCCCTCCTTGACAGACCCAA   | 2064 |
| T416 | 2008 | GTCCCTTCTGAAGTGCATGATCTTTGAATATGCAGAGTCGGTGACAAGTAC | 2057 |
| m-PC | 2065 | GTTTCATTGAAGGTCGTG...TTTG..TCACCAGTGT..GGACCACCTAA  | 2107 |
| T416 | 2058 | AGCAATGACTTCAGTAAGCCAGGCATCCTTGGATGTCTCCATGA.TAATA  | 2106 |
| m-PC | 2108 | GGGATTCTGCTCA.TGAGCCCGGAGTTCT..GAGCACACCAGCACTGGCT  | 2154 |
| T416 | 2107 | ATTATTTCCCTTAGGAGCAATTGTGCAGTGTGCTGGTTATATGGTGCT    | 2156 |
| m-PC | 2155 | TTGATCTGCCTGGCTGTACTGCTGGCCATCTTTGGATTGCTCTTAGCCCT  | 2204 |

FIG. 5I

|      |      |   |      |
|------|------|---|------|
| T416 | 2157 | ATTTGCAACTAGGTGTAAACCGCGAGAGAAAGACACTAGATCCTATAACT    | 2206 |
| m-PC | 2205 | GTTCGTGTCCATCTGCAGGACAGAGAGAAAGGATAATAGGGCCTACAAC     | 2254 |
| T416 | 2207 | GCAGGGTGGCCGAATCAACTTACCAGCACCCAAAAGGCCATCCCGG        | 2256 |
| m-PC | 2255 | GTCGAGAAAGCTGAGTCGTGCATACCGCCACCCAGCCCAAGAGGCCCCAGAAA | 2304 |
| T416 | 2257 | CAGATTCAAAAGGGGACATCACATTGGTGCCTACCATAAATGGCACTCT     | 2306 |
| m-PC | 2305 | CACATTCAAGAGGCAGATATCCACCTGGTGCCTGTGCT.TAGGGCCAC.     | 2352 |
| T416 | 2307 | GCCCATCAGATCTCATCA...CAGATCGTCTC.CATCTTCATCTCCTA..    | 2350 |
| m-PC | 2353 | GAGAAATGAGA.CTGATGAAGTCAGGCCCATCTCACAAAGGATACCAGCAAGG | 2401 |
| T416 | 2351 | ..CCTTAGAAAGAGGGCAGATGGG.....CAGCCGGCAGAGTCACAA       | 2390 |
| m-PC | 2402 | AGACACTGATGGAGGCAGGCTGGGACTCTTGCCCTGGAGGCCCCCTTCCAC   | 2451 |

FIG. 5J



|      |      |  |      |
|------|------|--|------|
| T416 | 2391 | CAGTCACCAGTCACTCAACAGTTTGGTGACAATCTCATCAAAACCACG...  | 2437 |
| m-PC | 2452 | CTCACACCA.ACCCTATACAGGACCTGCGTAACCAAGGCAACCAGGGAG    | 2500 |
| T416 | 2438 | ...TGCCAGA.....GAATTCT.CATTAGAAC.TCACC...CACGCC      | 2472 |
| m-PC | 2501 | AACTGGCAGAGAGCCAGGAGGTACTGCAGGACACCTTCAACTTCTCTTT    | 2550 |
| T416 | 2473 | ACTCCTGC..TGTTGA.GCAGGTCTCTC...AGCTTCT...TTCAATGC    | 2512 |
| m-PC | 2551 | AACCATCCAGGCAGAGAGGAATGCCTCCCGGAGAACCTAAACCTTCCTGA   | 2600 |
| T416 | 2513 | TTCAACCAGGGGCAATA..TCAGCCAAGACCAAG..TTTTCGAGGAAACAA  | 2558 |
| m-PC | 2601 | GTCCCCACCTGCTGTACGCCAACCACTCTTAAGGCCCTCTGAAGGTGCCCTG | 2650 |
| T416 | 2559 | ATATTCCAGGAGCTACAGATA.TGCCCTTCAAGACATGACAAAATTAGC    | 2607 |
| m-PC | 2651 | GTAGCCCCATAGCGAGGGCGACTGGAGACCAAGACAAGGAGGA...GGC    | 2696 |

FIG. 5K

|      |      |   |      |
|------|------|---|------|
| T416 | 2608 | TTGAAAAGACAGTGGCCGTGGTGACAGTGAGGC..AGGAGACAG.TGATTA   | 2654 |
| m-PC | 2697 | CCCACAGAGCCCACACAGCGTCCCTCTGCAACCCCTAAGACGACAGCGGAATT | 2746 |
| T416 | 2655 | TGATTTGGGCGAGATTCTCCAATA.GATAGGCTGCTGGTGAAGGATT       | 2703 |
| m-PC | 2747 | TCAAT..GGCAAAGTGTCTCCTAGAGGAGAGTCCGGTCTCATCAGATT      | 2794 |
| T416 | 2704 | ..AGCGACCTGTTT...CTCACAGATGGAAGAAATTCACAGCAGCTATGAGA  | 2748 |
| m-PC | 2795 | TGAGGAGCCTGGTTAGGCTCTCTG.TGGCTGCTTTTGCGGA...ACGGAA    | 2840 |
| T416 | 2749 | CTCTGCACGGAGGAG..TGCAGGGTCTCTGGGACACTCTGACCAGTGCTGG   | 2796 |
| m-PC | 2841 | CCCCG..TGGAGGAGCCTGCTGGGGACT..CTCCTCCTGTCCAGCAAATC    | 2886 |
| T416 | 2797 | ATGCCACCACTGCCCTCAC...CGTCTTCTGATTATAGGAGTAACATGT     | 2842 |
| m-PC | 2887 | TCCCAGCTGCTGTCTTGTCTGCACCGAGGGCCAAATTCAGCCCCAACCAA    | 2936 |

FIG. 5L

|      |      |                         |                                  |      |
|------|------|-------------------------|----------------------------------|------|
| T416 | 2843 | TCATTCCAGGGGAAGAAATTC   | CCCAACGCCAGCAGCATC....           | 2887 |
| m-PC | 2937 | CCA..CCGAGGAAATAAATACT  | TGGCCAAGCCCGCGGCAGCAGGGG         | 2984 |
| T416 | 2888 | .CACATCAGAGTC.TTGAGGATG | ACGCTCAGCCTGCAGATTCCGGTAAA       | 2935 |
| m-PC | 2985 | TACCATCCAGACACACAGAGG   | CGCTTG.TAGGCCTCAAGCCT.AGTGGCCA   | 3032 |
| T416 | 2936 | AGAAGAAGAGTTTTTCCACCT   | TTGGAAAGGACTCCCCAAACGATGAGGAC    | 2985 |
| m-PC | 3033 | AGCAGAA.....CCTGACCTG   | GAAGAAGGC.CCCCGAGCCCGGAGGA.      | 3074 |
| T416 | 2986 | ACTGGGGATACCAGCACATC.   | ATCTCTGCTCTCGGAAATGAGCAGTGTGT    | 3034 |
| m-PC | 3075 | ..GGACCTTCTGTAAAGCGAC   | TTCTAGAAAGAGCTGTCGAGCCTGT        | 3121 |
| T416 | 3035 | TCCAGCGTCTCTTACCGCCT    | TCCCTGGACA..CCTATTCTGAATGCAGTG   | 3082 |
| m-PC | 3122 | TGGACCCCTAATACAGGTCT    | AGCCCTGGACAAGCTGAGTCCGCCCTGACCCA | 3171 |

FIG. 5M

|      |      |   |      |
|------|------|---|------|
| T416 | 3083 | AGGTGGATCG.GTCCAACCTCCCTGGAGCGCAGGAAGGACCCTTGCCAGC  | 3131 |
| m-PC | 3172 | GCCTGGATGGCGAGATTGTTCATTTGCCCTCA.....CCACCAATTATCGA | 3216 |
| T416 | 3132 | CAAAACTGTGGGTTACCCACAGGGGTAGCGGCATGGGCAGCCAGTACGC   | 3181 |
| m-PC | 3217 | GACAACT.TGTCTTCCCCCGATGCTACAACATCAGAGGAACCGAGAAC..  | 3263 |
| T416 | 3182 | ATTTTCAAAATCCACCACTGTGGGCGGCCACTTGGAACCTCACTCC      | 3231 |
| m-PC | 3264 | .CTTCCAGACATTGCGCAAGACAGTTGGACCGGGAC.CCGAGCTGAGCCC  | 3311 |
| T416 | 3232 | AGTGTGCAGCCCTTCTTCAAAATGGCTGCCAGCCATGGAGGAGATCCCT.. | 3279 |
| m-PC | 3312 | AACAGGCACGCGCCTGGCCAGCACCTTTCGTCTCGGAGATGAGCTCTCTGC | 3361 |
| T416 | 3280 | ..GAAA..ATTATGAGGAAGATGATTTTGACAATG..TGCT.CAACCACC  | 3322 |
| m-PC | 3362 | TGGAAATGTTGTTGGGCGAGCACACGGTACCACTGGAAGCTGCGTCCGCG  | 3411 |

FIG. 5N

|      |      |  |      |
|------|------|--|------|
| T416 | 3323 | TCAATGATGGGAAACACGAACTCATGGATG....CCAGT...GA.....  | 3359 |
| m-PC | 3412 | GCTTTGCGGAGGCTCTCGGTGTGCGGAGGACCCCTCAGTCTAGACCTAGC | 3461 |
| T416 | 3360 | ....ACTGGTGGCAGAGATTAAACA..ACTGCTT..CAAGATGTCCGC.C | 3400 |
| m-PC | 3462 | CACCAGTGGGGCTTCAGCTTCAGAAAGCACAGGGTAGAAAGAGCAGCTG  | 3511 |
| T416 | 3401 | AGAGC.....   | 3405 |
| m-PC | 3512 | AGAGCAGACTTGGCTGTGGCAGGAATCTA                      | 3540 |

FIG. 50

|      |     |   |     |
|------|-----|---|-----|
| m-PC | 1   | MMLLLPFLGLLPGSYLFISGDCQEVATVMVKFQVTEEVPSTGIGKLS       | 50  |
| T416 | 1   | .MHQMNAKMHFRFVFALLIVSFN.HDVLGKNLKYRIYEEQRVGSVIARLS    | 48  |
| m-PC | 51  | QELR..VEERRGKAGDAFQILQLPQALPVQMNSDGLLSTSSRLDREKLC     | 98  |
| T416 | 49  | EDVADVLLKLPNPSTVFRFRAMQRCNGNSPLLVVNEDNGEISIGATIDREQLC | 98  |
| m-PC | 99  | RQEDPCLVSFDV..LATGASALIHVEIQVLDINDHQPFQPKDEQELEISE    | 146 |
| T416 | 99  | QKNLNCSEFDVITLPTTEHLQLFHIEVEVLDINDNSPQFSRSLPIEISE     | 148 |
| m-PC | 147 | SASLHTRIPLDRALDQDTGPNLSLYSLSLSPSEHFALDVIVGPDETKHAEL   | 196 |
| T416 | 149 | SAAVGTRIPLDSAFDPDVGENSLHTYSLSANDFFNIEVTRTRTDGAKYAE    | 198 |
| m-PC | 197 | VVKELDRHLSYFDLVLTAVDNGNPPKSGISVVKVNLDSNDNSPVFAE       | 246 |
| T416 | 199 | IVVRELDRELKSSVELQLTASDMGVQPQRSGSSILKISISDSNDNSPAFEQ   | 248 |

FIG. 6A

|      |     |   |     |
|------|-----|---|-----|
| m-PC | 247 | SSLALEIPEDTVPGTLLINLTATDPDQGPNGEVEFFGKHVSPEVMNTFG   | 296 |
| T416 | 249 | QSYIIQLENSPVGTLLLDLNATDPDEGANGKIVYSFSSHVSPKIMETFK   | 298 |
| m-PC | 297 | IDAKTGQIILRQALDYEKNPAYEVDVQARDLGPNSIPGHCKVLIKVLVDVN | 346 |
| T416 | 299 | IDSERGHLTLFKQVDYEITKSYEIDVQAQDLGPNSIPAHCKIIIKVVDVN  | 348 |
| m-PC | 347 | DNAPSILITWAS...QTSLVSEDLPRDSFIALVSANDLDSGNNGLVHCW   | 392 |
| T416 | 349 | DNKPEININLMSPGKEEISYIFEGDPIDTFVALVRVQDKDGLNGEIVCK   | 398 |
| m-PC | 393 | LNQELGHFRLKRTNGNTYMLLTNATLDREQWPIYTLTVFAQDQGPQLSA   | 442 |
| T416 | 399 | LHGH.GHFKLQKTYENNYLLTNATLDREKRSEYSLTVIAEDRGTPSLST   | 447 |
| m-PC | 443 | EKELQIQVSDVNDNAPVFEKSRYEVSSTWENNPPSLHLITLKAHDADLGSN | 492 |
| T416 | 448 | VKHFTVQINDINDNPPHFQRSRYEFVISENNSPGAYITTVTATDPDLGEN  | 497 |

FIG. 6B







|      |      |               |                          |                                |      |
|------|------|---------------|--------------------------|--------------------------------|------|
| m-PC | 982  | GNKYLAKPGSSRG | TIPDTEGLVGL.KPSGQAEPDLEE | PPSPPEEDLSVK                   | 1030 |
| T416 | 964  | HQLEDDAQPADS  | GEKKSFSTFGKDS            | PNDTGTSTSSLLSEMSSVFQ           | 1013 |
| m-PC | 1031 | RLLEEEL...    | SSLLDPNTGLALDKLSPDP      | PAWMARLSPLTTNYRDNLSS           | 1077 |
| T416 | 1014 | RLPPSLD       | TYSECSEVDRSNSLERRKGPL    | PAKTVGYPQGVAAWAASTHFQ          | 1063 |
| m-PC | 1078 | PDATTEEPRTFQ  | TFGKTVGPGPELSPTG         | TRLASTFVSEMSSLLEMLLGQ          | 1127 |
| T416 | 1064 | NPTTNCGPPLG   | THS...SVQPSSKWL          | PAMEEIPENYEEDDFDNLHND          | 1110 |
| m-PC | 1128 | HTVPVEAA      | SAALRRLSVCCGRTL          | SLDLATSGASASEAQGRKKAESRLGCCGNL | 1180 |
| T416 | 1111 | GKHELM        | DASELVAEINKLLQD          | VRQS.....                      | 1135 |

FIG. 6E

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| GAAGTGGGAT | GTGCAAAAGC | GCCGGCTGGA | AATCCCGGCT | GTGTCTCCGT | CAACTCTTTA | 60  |
| CGCAACAGAG | GTCTCCCCCT | GCCCTTGGTT | TCTACCGGGC | CGCCTGCTCC | CACTCGGCGA | 120 |
| AAAAAATTAC | ACAACAGCAG | CCGCGGCG   | ATG ACG    | TGG AGG    | GCT GCC    | 172 |
|            | Met Thr    | Trp Arg    | Ala Ala    | Ala Ser    |            | 8   |
| ACG TGC    | GCG CTC    | CTG ATT    | CTG CTG    | TGG GCG    | CTG ACC    | 220 |
| Thr Cys    | Ala Ala    | Leu Leu    | Ile Leu    | Trp Ala    | Leu Thr    | 24  |
| GAT CTG    | AAA GTA    | GAG ATG    | GCA GGG    | GGG ACT    | CAG ATC    | 268 |
| Asp Leu    | Lys Val    | Glu Met    | Met Ala    | Gly Gly    | Thr Ile    | 40  |
| AAT GAC    | AAT GTC    | ACC ATA    | TTC TGC    | AAT ATC    | TTT TAT    | 316 |
| Asn Asp    | Asn Val    | Thr Thr    | Ile Phe    | Cys Asn    | Ile Phe    | 56  |
| AAC ATC    | ACG TCT    | ATG GGT    | ATC ACC    | TGG TTT    | TGG AAG    | 364 |
| Asn Ile    | Thr Ser    | Met Gly    | Ile Thr    | Trp Phe    | Trp Lys    | 72  |
| GAC AAA    | GAA GTC    | AAA GTC    | TTT GAA    | TTT TTT    | GGA GAT    | 412 |
| Asp Lys    | Glu Glu    | Val Lys    | Val Phe    | Glu Phe    | Gly Asp    | 88  |
| TTC CGA    | CCT GGA    | GCC ATT    | GTG TCT    | CCA TGG    | AGG CTG    | 460 |
| Phe Arg    | Pro Gly    | Ala Ala    | Ile Val    | Pro Trp    | Arg Leu    | 104 |
| GCC TCA    | CTG CGG    | CTG CCT    | GGA ATC    | CAG CTG    | GAG GAA    | 508 |
| Ala Ser    | Leu Arg    | Leu Pro    | Gly Ile    | Gln Leu    | Glu Ala    | 120 |

Fig. 7A

|   |     |
|---|-----|
| CGA TGT GAG GTG GTG GTC ACC CCT CTG AAG GCA CAG GGA ACA GTC CAG | 556 |
| Arg Cys Glu Val Val Val Thr Pro Leu Lys Ala Gln Gly Thr Val Gln | 136 |
| CTT GAA GTT GTG GCT TCC CCA GCC AGC AGA TTG TTG CTG GAT CAA GTG | 604 |
| Leu Glu Val Val Ala Ser Pro Ala Ser Arg Leu Leu Asp Gln Val     | 152 |
| GGC ATG AAA GAG AAT GAA GAC AAA TAT ATG TGT GAG TCA AGT GGG TTC | 652 |
| Gly Met Lys Glu Asn Glu Asp Lys Tyr Met Cys Glu Ser Ser Gly Phe | 168 |
| TAC CCA GAG GCT ATT AAT ATA ACA TGG GAG AAG CAG ACC CAG AAG TTT | 700 |
| Tyr Pro Glu Ala Ile Asn Ile Thr Trp Glu Lys Gln Thr Gln Lys Phe | 184 |
| CCC CAT CCC ATA GAG ATT TCT GAG GAT GTC ATC ACT GGT CCC ACC ATC | 748 |
| Pro His Pro Ile Glu Ile Ser Glu Asp Val Ile Thr Gly Pro Thr Ile | 200 |
| AAG AAT ATG GAT GGC ACA TTT AAT GTC ACT AGC TGC TTG AAG CTG AAC | 796 |
| Lys Asn Met Asp Gly Thr Phe Asn Val Thr Ser Cys Leu Lys Leu Asn | 216 |
| TCC TCT CAG GAA GAC CCT GGG ACT GTC TAC CAG TGT GTG GTA CGG CAT | 844 |
| Ser Ser Gln Glu Asp Pro Gly Thr Val Tyr Gln Cys Val Val Arg His | 232 |
| GCG TCC TTG CAT ACC CCC TTG AGG AGC AAC TTT ACC CTG ACT GCT GCT | 892 |
| Ala Ser Leu His Thr Pro Leu Arg Ser Asn Phe Thr Leu Thr Ala Ala | 248 |
| CGG CAC AGT CTT TCT GAA ACT GAG AAG ACA GAT AAT TTT TCC ATT CAT | 940 |
| Arg His Ser Leu Ser Glu Thr Glu Lys Thr Asp Asn Phe Ser Ile His | 264 |

Fig. 7B

|   |      |
|---|------|
| TGG TGG CCT ATT TCA TTC ATT GGT GTT GGA CTG GTT TTA TTA ATT GTT         | 988  |
| Trp Trp Pro Ile Ser Phe Ile Gly Val Gly Leu Val Leu Leu Ile Val         | 280  |
| TTG ATT CCT TGG AAA AAG GTA AGG GGC TCC AAA GCA AAG TTC AGC CCT         | 1036 |
| Leu Ile Pro Trp Lys Lys Val Arg Gly Ser Lys Ala Lys Phe Ser Pro         | 296  |
| GTG TCT TGG GCT AGT AAA AAG CTT TTA GAG CAG CTG CTG CCA ACC TTA         | 1084 |
| Val Ser Trp Ala Ser Lys Lys Leu Leu Leu Gln Leu Pro Thr Leu             | 312  |
| CAA GCC TCA AGG GAC AGG CCT GCT GGA AAG GAC TTT GTC AGT CCC TCT         | 1132 |
| Gln Ala Ser Arg Asp Arg Pro Ala Gly Lys Asp Phe Val Ser Pro Ser         | 328  |
| TCA CCA TCA GGT GTT GGG AAT GTT GGC TGT GTT CCA ATC CAG TTT CCT         | 1180 |
| Ser Pro Ser Gly Val Gly Val Gly Asn Val Gly Cys Val Pro Ile Gln Phe Pro | 344  |
| ATC ACA GAG GAC CTA GCT GTC ACA TAC CAT CTG ACC TCT GTA TGG TGG         | 1228 |
| Ile Thr Glu Asp Leu Ala Val Thr Tyr His Leu Thr Ser Val Trp Trp         | 360  |
| TTT GTG ACT CTG GGG TGATGTGTG TAAAGCCTCC CTCTCTTTCT CCATACTAAA          | 1283 |
| Phe Val Thr Leu Gly   | 365  |
| CAAGTATTAT ATCTCTGTGA ATGAACCAGA CTTTAGTGTT CAGACCAGGC CCTGAACATAT      | 1343 |
| GTGTGGACTG CTTGTTTTTC TCACACATTT AGAAACTATG GCTTAGAGAG GGAATTCCT        | 1403 |
| CATATTTTAT CTGATCAATA ACTGACCCACC AGATCTCACT AGTTTGACTA AGAATTTCTA      | 1463 |
| ACCCTCACTA GGTATTTCTA AACTAAAACA TGTTTCTAAA CATTTTATC CCTGACTATG        | 1523 |

Fig. 7C

|            |            |            |            |            |            |      |
|------------|------------|------------|------------|------------|------------|------|
| GCCCAATAG  | TAAATAAAC  | AGCTCAAGCT | TTAGAGGCC  | AAGAGACCTA | TGTAAATGTG | 1583 |
| TTGGTTAAAA | TAGTTTTAGA | TAATAAAAGG | GCCCTCAATT | ATTTATGGC  | CTGTCAAAGC | 1643 |
| AAAATCTGCA | CAACAGCCAG | TACATCTCAT | TATAAATAAT | TTAGGAGAAG | TGGAATAATC | 1703 |
| AGTCAATTAA | GAAAAATGGC | CCTTTATCTA | AAGTTGCCA  | TTTAGATTCA | CGGGACTTAT | 1763 |
| TCCTGTTGGA | TCTAGGCCAT | GAGAAACTG  | GATAAAAAGT | GGTTTCAAA  | TGTTTCTTGT | 1823 |
| GGTATTTGTG | ACTGTTGTCA | TATTTCTTGC | CTTCTCTGG  | TTCTGATATT | CAGGTGCTAT | 1883 |
| TGAGAGAGGA | GGAAGGAAGA | AACTAGTCAG | GCAGGCAGTT | AGGGTGGCC  | CTCAGTCAAA | 1943 |
| TTCCCTTCAA | CAAAAGAACA | GCCTGAAAA  | TCAAACGTCA | GATAAGGAA  | CTTGACAGG  | 2003 |
| GGGCTTGCC  | TAAACATGC  | CCACAGCCAC | ATACATTAAA | ACAAGGCTAC | ACAGGAGACT | 2063 |
| TGCCTAGACA | TGCTCACAAT | AGAAAATTCC | ATCCCCTGAC | ACATGCACAG | TAAGGGGAAC | 2123 |
| AAAGCCACAT | GGAGTAACTC | AAGCTAAGGG | CTTGCATGCA | CACTACGAGG | ATGGGGTGGA | 2183 |
| GCTACCAGAA | ATGTGTGCCT | TATGCCCTTG | TATTCAGCTG | TGAAATGGCA | ACCCCTCTTT | 2243 |
| GGCCCCCCTC | TCTGCAGTGG | AGTGCTTTCT | TCTTTTGCTT | ATTAAACTTT | CACTTCAACT | 2303 |
| TCAAAAAAA  | AAAAAAA    | AAAAAAA    |            |            |            | 2330 |

Fig. 7D

|             |             |            |            |            |            |        |
|-------------|-------------|------------|------------|------------|------------|--------|
| GAAGTTGAAG  | TGAAAGTTTA  | ATAAGCAAAA | GAAGAAAGCA | CTCCACTGCA | GAGAGGGGC  | 2246   |
|             |             |            |            |            |            |        |
| GAAGTTGAAG  | TGAAAGTTTA  | ATAAGCAAAA | GAAGAAAGCA | CTCCACTGCA | GAGAGGGGC  | 121136 |
| CCAAAAGAGG  | GTTGCCATTT  | CACAGCTGAA | TACAAAGGCA | TAAGGCACAC | ATTTCTGGTA | 2186   |
|             |             |            |            |            |            |        |
| CCAAAAGAGG  | GTTGCCATTT  | CACAGCTGAA | TACAAAGGCA | TAAGGCACAC | ATTTCTGGTA | 121196 |
| GCTCCACCCC  | ATCCTCGTAG  | TGTGCATGCA | AGCCCTTAGC | TTGAGTTACT | CCATGTGGCT | 2126   |
|             |             |            |            |            |            |        |
| GCTCCACCCC  | ATCCTCGTAG  | TGTGCATGCA | AGCCCTTAGC | TTGAGTTACT | CCATGTGGCT | 121256 |
| TTGTTCCCCCT | TACTGTGCAT  | GTGTCAGGGG | ATGGAATTTT | CTATTGTGAG | CATGTCTAGG | 2066   |
|             |             |            |            |            |            |        |
| TTGTTCCCCCT | TACTGTGCAT  | GTGTCAGGGG | ATGGAATTTT | CTATTGTGAG | CATGTCTAGG | 121316 |
| CAAGTCTCCT  | GTGTAGCCCTT | GTTTAAATGT | ATGTGGCTGT | GGGCATGTTT | TAGGCAAGCC | 2006   |
|             |             |            |            |            |            |        |
| CAAGTCTCCT  | GTGTAGCCCTT | GTTTAAATGT | ATGTGGCTGT | GGGCATGTTT | TAGGCAAGCC | 121376 |
| CCCCGTGTACA | AGTTCCCTTA  | TCTGCAGTTT | GATTTTTCAG | GCTGTTCTTT | TGTTTGAAGG | 1946   |
|             |             |            |            |            |            |        |
| CCCCGTGTACA | AGTTCCCTTA  | TCTGCAGTTT | GATTTTTCAG | GCTGTTCTTT | TGTTTGAAGG | 121436 |

Fig. 9A

|             |            |            |            |            |             |        |
|-------------|------------|------------|------------|------------|-------------|--------|
| AATTGACTG   | AGGGCCCACC | CTAACTGCCT | GCCTGACTAG | TTTCTTCCTT | CCTCCTCTCT  | 1886   |
|             |            |            |            |            |             |        |
| AATTGACTG   | AGGGCCCACC | CTAACTGCCT | GCCTGACTAG | TTTCTTCCTT | CCTCCTCTCT  | 121496 |
| CAATAGCACC  | TGAATATCAG | AACCAGAGAA | AGGCAAGAAA | TATGACAACA | GTCACAAAATA | 1826   |
|             |            |            |            |            |             |        |
| CAATAGCACC  | TGAATATCAG | AACCAGAGAA | AGGCAAGAAA | TATGACAACA | GTCACAAAATA | 121556 |
| CCACAAGAAA  | CATTGAAAA  | CCACTTTTA  | TCCAGTTTC  | TCATGGCCTA | GATCCAACAG  | 1766   |
|             |            |            |            |            |             |        |
| CCACAAGAAA  | CATTGAAAA  | CCACTTTTA  | TCCAGTTTC  | TCATGGCCTA | GATCCAACAG  | 121616 |
| GAATAAGTCC  | CGTGAATCTA | AATGGCCAAC | TTAGATAAA  | GGGCCATTTT | TCTTAATTGA  | 1706   |
|             |            |            |            |            |             |        |
| GAATAAGTCC  | CGTGAATCTA | AATGGCCAAC | TTAGATAAA  | GGGCCATTTT | TCTTAATTGA  | 121676 |
| CTGATTATTC  | CACCTCTCCT | AAATTATTTA | TAATGAGATG | TACTGGCTGT | TGTGCAGATT  | 1646   |
|             |            |            |            |            |             |        |
| CTGATTATTC  | CACCTCTCCT | AAATTATTTA | TAATGAGATG | TACTGGCTGT | TGTGCAGATT  | 121736 |
| TTGCCCTTGAC | AGGCCCATAA | ATAATTGAGG | GCCCTTTTAT | TATCTAAAAC | TATTTTAACC  | 1586   |
|             |            |            |            |            |             |        |
| TTGCCCTTGAC | AGGCCCATAA | ATAATTGAGG | GCCCTTTTAT | TATCTAAAAC | TATTTTAACC  | 121796 |

Fig. 9B



|  |        |
|--|--------|
| AACACATTTA CATAGGTCTC TTGGGCCCTCT AAAGCTTGAG CTGTTTATT TACTATTGG   | 1526   |
|  |        |
| AACACATTTA CATAGGTCTC TTGGGCCCTCT AAAGCTTGAG CTGTTTATT TACTATTGG   | 121856 |
| GCCATAGTCA GGGATAAAAA TGTTTAGAAA CATGTTTAG TTTAGAAATA CCTAGTGAGG   | 1466   |
|  |        |
| GCCATAGTCA GGGATAAAAA TGTTTAGAAA CATGTTTAG TTTAGAAATA CCTAGTGAGG   | 121916 |
| GTTAGAAATT CTTAGTCAAA CTAGTGAGAT CTGGTGGTCA GTTATTGATC AGATAAAATA  | 1406   |
|  |        |
| GTTAGAAATT CTTAGTCAAA CTAGTGAGAT CTGGTGGTCA GTTATTGATC AGATAAAATA  | 121976 |
| TGAGGAATTC CCTCTCTCTAA GCCATAGTTT CTAAATGTGT GAGAAAAACA AGCAGTCCAC | 1346   |
|  |        |
| TGAGGAATTC CCTCTCTCTAA GCCATAGTTT CTAAATGTGT GAGAAAAACA AGCAGTCCAC | 122036 |
| ACATAGTTCA GGGCCTGGTC TGAACACTAA AGTCTGGTTC ATTCACAGAG ATATAATACT  | 1286   |
|  |        |
| ACATAGTTCA GGGCCTGGTC TGAACACTAA AGTCTGGTTC ATTCACAGAG ATATAATACT  | 122096 |
| TGTTTAGTAT GGAGAAAGAG AGGAGGCTT TACAACACAT CACCCCAGAG TCACAAACCA   | 1226   |
|  |        |
| TGTTTAGTAT GGAGAAAGAG AGGAGGCTT TACAACACAT CACCCCAGAG TCACAAACCA   | 122156 |

Fig. 9C

|            |            |            |             |            |            |        |
|------------|------------|------------|-------------|------------|------------|--------|
| CCATACAGAG | GTCAGATGGT | ATGTGACAGC | TAGGTCCTCT  | GTGATAGGAA | ACTGGATTGG | 1166   |
|            |            |            |             |            |            |        |
| CCATACAGAG | GTCAGATGGT | ATGTGACAGC | TAGGTCCTCT  | GTGATAGGAA | ACTGGATTGG | 122216 |
| AACACAGCCA | ACATTCCCAA | CACCTGATGG | TGAAGAGGGA  | CTGACAAAGT | CCTTTCACAG | 1106   |
|            |            |            |             |            |            |        |
| AACACAGCCA | ACATTCCCAA | CACCTGATGG | TGAAGAGGGA  | CTGACAAAGT | CCTTTCACAG | 122276 |
| AGGCCGTGTC | CTTGAGGCTT | GTAAGGTTGG | CAGCAGCTGC  | TCTAAAAGCT | TTTTACTAGC | 1046   |
|            |            |            |             |            |            |        |
| AGGCCGTGTC | CTTGAGGCTT | GTAAGGTTGG | CAGCAGCTGC  | TCTAAAAGCT | TTTTACTAGC | 122336 |
| CCAAGACACA | GGGCTGAACT | TTGCTTTGGA | GCCCCCTTACC | TTTTTCCAAG | GAATCAAAAC | 986    |
|            |            |            |             |            |            |        |
| CCAAGACACA | GGGCTGAACT | TTGCTTTGGA | GCCCCCTTACC | TTTTTCCAAG | GAATCAAAAC | 122396 |
| AATTAATAAA | ACCAGTCCAA | CACCAATGAA | TGAAATAGGC  | CACCAATGAA | TGGAATAATT | 926    |
|            |            |            |             |            |            |        |
| AATTAATAAA | ACCAGTCCAA | CACCAATGAA | TGAAATAGGC  | CACCAATGAA | TGGAATAATT | 122456 |
| ATCTGTCTTC | TCAGTTTCAG | AA         |             |            |            | 904    |
|            |            |            |             |            |            |        |
| ATCTGTCTTC | TCAGTTTCTG | CA         |             |            |            | 122478 |

Fig. 9D

|   | M V |     | 2   |
|---|-----|-----|-----|
| GGCCCGGCAGCTCGGGCTCGGGATCCGTCGAGGGAGGCCGAGCTTGCCAAAGCTGGCGCCAGCGGGGTC           | ATG | GTG | 77  |
| P G A R G G G A L A R A A G R G L L A L   | A   | L   | 22  |
| CCC GGC GCC CGC GGC GGC GCA CTG GCG GGT GCG GGC CTC CTG GCT TTG                 | CTG | TTG | 137 |
| L L A V S A P L R L Q A E E L G D G C G   | C   | G   | 42  |
| CTG CTC GCG GTC TCC GCC CCG CTC CCG CTG CAG GCG GAG GAG CTG GGT GAT GGC TGT GGA | TGT | GGA | 197 |
| H L V T Y Q D S G T M T S K N Y P G T Y   | T   | Y   | 62  |
| CAC CTA GTG ACT TAT CAG GAT AGT GGC ACA ATG ACA TCT AAG AAT TAT CCC GGC ACC TAC | ACC | TAC | 257 |
| P N H T V C E K T I T V P K G K R L I L   | I   | L   | 82  |
| CCC AAT CAC ACT GTT TGC GAA AAG ACA ATT ACA GTA CCA AAG GGC AAA AGA CTG ATT CTG | ATT | CTG | 317 |
| R L G D L D I E S Q T C A S D Y L L F T   | F   | T   | 102 |
| AGG TTG GGA GAT TTG GAT ATC GAA TCC CAG ACC TGT GCT TCT GAC TAT CTT CTC TTC ACC | CTC | ACC | 377 |
| S S S D Q Y G P Y C G S M T V P K E L L   | L   | L   | 122 |
| AGC TCT TCA GAT CAA TAT GGT CCA TAC TGT GGA AGT ATG ACT GTT CCC AAA GAA CTC TTG | CTC | TTG | 437 |
| L N T S E V T V R F E S S G S H I S G R G                                       | R   | G   | 142 |
| TTG AAC ACA AGT GAA GTA ACC GTC CGC TTT GAG AGT GGA TCC CAC ATT TCT GGC CGG GGT | CGG | GGT | 497 |

Fig. 10A

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| F   | L   | L   | T   | Y   | A   | S   | S   | D   | H   | P   | D   | L   | I   | T   | C   | L   | E   | R   | A   | 162 |
| TTT | TTG | CTG | ACC | TAT | GCG | AGC | AGC | GAC | CAT | CCA | GAT | TTA | ATA | ACA | TGT | TTG | GAA | CGA | GCT | 557 |
| S   | H   | Y   | L   | K   | T   | E   | Y   | S   | K   | F   | C   | P   | A   | G   | C   | R   | D   | V   | A   | 182 |
| AGC | CAT | TAT | TTG | AAG | ACA | GAA | TAC | AGC | AAA | TTC | TGC | CCA | GCT | GGT | TGT | AGA | GAC | GTA | GCA | 617 |
| G   | D   | I   | S   | G   | N   | M   | V   | D   | G   | Y   | R   | D   | T   | S   | L   | L   | C   | K   | A   | 202 |
| GGA | GAC | ATT | TCT | GGG | AAT | ATG | GTA | GAT | GGA | TAT | AGA | GAT | ACC | TCT | TTA | TTG | TGC | AAA | GCT | 677 |
| A   | I   | H   | A   | G   | I   | I   | A   | D   | E   | L   | G   | G   | Q   | I   | S   | V   | L   | Q   | R   | 222 |
| GCC | ATC | CAT | GCA | GGA | ATA | ATT | GCT | GAT | GAA | CTA | GGT | GGC | CAG | ATC | AGT | GTG | CTT | CAG | CGC | 737 |
| K   | G   | I   | S   | R   | Y   | E   | G   | I   | L   | A   | N   | G   | V   | L   | S   | R   | D   | G   | S   | 242 |
| AAA | GGG | ATC | AGT | CGA | TAT | GAA | GGG | ATT | CTG | GCC | AAT | GGT | GTT | CTT | TCG | AGG | GAT | GGT | TCC | 797 |
| L   | S   | D   | K   | R   | F   | L   | F   | T   | S   | N   | G   | C   | S   | R   | S   | L   | S   | F   | E   | 262 |
| CTG | TCA | GAC | AAG | CGA | TTT | CTG | TTT | ACC | TCC | AAT | GGT | TGC | AGC | AGA | TCC | TTG | AGT | TTT | GAA | 857 |
| P   | D   | G   | Q   | I   | R   | A   | S   | S   | S   | W   | Q   | S   | V   | N   | E   | S   | G   | D   | Q   | 282 |
| CCT | GAC | GGG | CAA | ATC | AGA | GCT | TCT | TCC | TCA | TGG | CAG | TCG | GTC | AAT | GAG | AGT | GGA | GAC | CAA | 917 |
| V   | H   | W   | S   | P   | G   | Q   | A   | R   | L   | Q   | D   | Q   | G   | P   | S   | W   | A   | S   | G   | 302 |
| GTT | CAC | TGG | TCT | CCT | GGC | CAA | GCC | CGA | CTT | CAG | GAC | CAA | GGC | CCA | TCA | TGG | GCT | TCG | GGC | 977 |

Fig. 10B

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| D   | S   | S   | N   | N   | H   | K   | P   | R   | E   | W   | L   | E   | I   | D   | L   | G   | E   | K   | K   | 322  |
| GAC | AGT | AGC | AAC | AAC | CAC | AAA | CCA | CGA | GAG | TGG | CTG | GAG | ATC | GAT | TTG | GGG | GAG | AAA | AAG | 1037 |
| K   | I   | T   | G   | I   | R   | T   | T   | G   | S   | T   | Q   | S   | N   | F   | N   | F   | Y   | V   | K   | 342  |
| AAA | ATA | ACA | GGA | ATT | AGG | ACC | ACA | GGA | TCT | ACA | CAG | TCG | AAC | TTC | AAC | TTT | TAT | GTT | AAG | 1097 |
| S   | F   | V   | M   | N   | F   | K   | N   | N   | N   | S   | K   | W   | K   | T   | Y   | K   | G   | I   | V   | 362  |
| AGT | TTT | GTG | ATG | AAC | TTC | AAA | AAC | AAT | AAT | TCT | AAG | TGG | AAG | ACC | TAT | AAA | GGA | ATT | GTG | 1157 |
| N   | N   | E   | E   | K   | V   | F   | Q   | G   | N   | S   | N   | F   | R   | D   | P   | V   | Q   | N   | N   | 382  |
| AAT | AAT | GAA | GAA | AAG | GTG | TTT | CAG | GGT | AAC | TCT | AAC | TTT | CGG | GAC | CCA | GTG | CAA | AAC | AAT | 1217 |
| F   | I   | P   | P   | I   | V   | A   | R   | Y   | V   | R   | V   | V   | P   | Q   | T   | W   | H   | Q   | R   | 402  |
| TTC | ATC | CCT | CCC | ATC | GTG | GCC | AGA | TAT | GTG | CGG | GTT | GTC | CCC | CAG | ACA | TGG | CAC | CAG | AGG | 1277 |
| I   | A   | L   | K   | V   | E   | L   | I   | G   | C   | Q   | I   | T   | Q   | G   | N   | D   | S   | L   | V   | 422  |
| ATA | GCC | TTG | AAG | GTG | GAG | CTC | ATT | GGT | TGC | CAG | ATT | ACA | CAA | GGT | AAT | GAT | TCA | TTG | GTG | 1337 |
| W   | R   | K   | T   | S   | Q   | S   | T   | S   | V   | S   | T   | K   | K   | E   | D   | E   | T   | I   | T   | 442  |
| TGG | CGC | AAG | ACA | AGT | CAA | AGC | ACC | AGT | GTT | TCA | ACT | AAG | AAA | GAA | GAT | GAG | ACA | ATC | ACA | 1397 |
| R   | P   | I   | P   | S   | E   | E   | T   | S   | T   | G   | I   | N   | I   | T   | T   | V   | A   | I   | P   | 462  |
| AGG | CCC | ATC | CCC | TCG | GAA | GAA | ACA | TCC | ACA | GGA | ATA | AAC | ATT | ACA | ACG | GTG | GCT | ATT | CCA | 1457 |

Fig. 10C

L V L L L V V L V L V F A G M G I F A A F R K 482  
 TTG GTG CTC CTT GTT GTC CTG GTG TTT GCT GGA ATG GGG ATC TTT GCA GCC TTT AGA AAG 1517  
  
 K K K K G S P Y G S A E A Q K T D C W K 502  
 AAG AAG AAG AAA GGA AGT CCG TAT GGA TCA GCA GAG GCT CAG AAA ACA GAC TGT TGG AAG 1577  
  
 Q I K Y P F A R H Q S A E F T I S Y D N 522  
 CAG ATT AAA TAT CCC TTT GCC AGA CAT CAG TCA GCT GAG TTT ACC ATC AGC TAT GAT AAT 1637  
  
 E K E M T Q K L D L I T S D M A D Y Q Q 542  
 GAG AAG GAG ATG ACA CAA AAG TTA GAT CTC ATC ACA AGT GAT ATG GCA GAT TAC CAG CAG 1697  
  
 P L M I G T G T V T R K G S T F R P M D 562  
 CCC CTC ATG ATT GGC ACC GGG ACA GTC ACG AGG AAG GGC TCC ACC TTC CGG CCC ATG GAC 1757  
  
 T D A E E A G V S T D A G G H Y D C P Q 582  
 ACG GAT GCC GAG GAG GCA GGG GTG AGC ACC GAT GCC GGC GGC CAC TAT GAC TGC CCG CAG 1817  
  
 R A G R H E Y A L P L A P P E P E Y A T 602  
 CGG GCC GGC CGC CAC GAG TAC GCG CTG CCC CTG GCG CCC GAG CCC GAG TAC GCC ACG 1877  
  
 P I V E R H V L R A H T F S A Q S G Y R 622  
 CCC ATC GTG GAG CGG CAC GTG CTG CGC GCC CAC ACG TTC TCT GCG CAG AGC GGC TAC CGC 1937

Fig. 10D

V P G P P Q P G H K H S L S S G G F S P V 642  
GTC CCA GGG CCC CAG CCC GGC CAC AAA CAC TCC CTC TCC TCG GGC GGC TTC TCC CCC GTA 1997

A G V G A Q D G D Y Q R P H S A Q P A D 662  
GCG GGT GTG GGC GCC CAG GAC GGA GAC TAT CAA AGG CCA CAC AGC GCA CAG CCT GCG GAC 2057

R G Y D R P K A V S A L A T E S G H P D 682  
AGG GGC TAC GAC CGG CCC AAA GCT GTC AGC GCC CTC GCC ACC GAA AGC GGA CAC CCT GAC 2117

S Q K P P T H P G T S D S Y S A P R D C 702  
TCT CAG AAG CCC CCA ACG CAT CCC GGG ACG AGT GAC AGC TAT TCT GCC CCC AGA GAC TGC 2177

L T P L N Q T A M T A L L \* 715  
CTC ACA CCC CTC AAC CAG ACG GCC ATG ACT GCC CTT TTG TGA 2219

ACACAATGTGAAAGAAGCCTGCTGTGGTACTGAGCGTCGGGCTGTCAAGGCACCTGGAAGAAGGAGCCTGCTGGTCC 2298  
AGAGTGTGCGTGTATCGGTGTGTGTACACTTGCCATGTGTGTGTGTGATCCAGTAGGATCCTAGAGACAACCTGTC 2377  
ATACTGTTTACAAAATTGTGCAGCTGGTTTCGTGCTGACCCCTTAGGGTCCGTCTGTTGGGTTTGTGGGCTAGAAAAA 2456  
TGAAAAATTTTAGATGGCGTTTTCATTCCTCTGACTGATATTGAGCTGCTTTGGTGTAAAGGTGAATGTGTACAGAG 2535  
TTGTATTTAACAATAATAAAGTAACCTTAAGTTTGTCTCTATCAGATTTTAGTTCTGCACAGAGGTTAAGTGGGAAAATG 2614  
CAGCTGTTGCCAAAATGTATATAAATAGTATGTTTCATTTTTCAGTATATATCTGATACCTGTGTAGCAGCAGGTCTG 2693  
CTTAAACCTAGTCTTGTGTTATTGAGTCATTTCCCTCTCCTTTGATAACTAGAACTGAAAGCATTTTAAACATTCCTCT 2772  
CCTGGAAGAAATGAATTACTTGAAGCATGAAAGACACACAGGCTGTTGTTTATTAGCAATTATGACTGTAGATTTA 2851

Fig. 10E

**Fig. 10F**



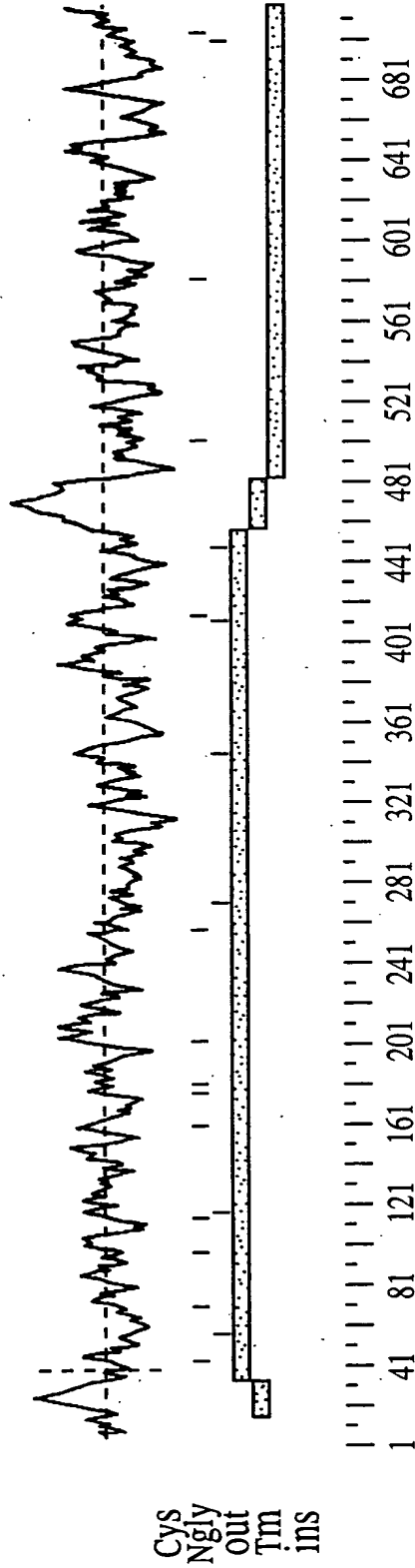


FIG. 10G

# Sequence

|   |        |
|---|--------|
| GTGGTCGCGCGGAGGTGAGACTGTGAAGAAGAAAGCTTGCTTGGGCAAAAGGAGCATATTCTCAGGAGACGGGC  | 79     |
| CCCTGCCTGCCACACCAAGCATTAGGCCACCAGGAAGACCCCATCTGCAAGCAAGCCTAGCCTTCCAGGGAGAAAGAG  | 158    |
|   |        |
| <div>M</div> <div>N</div> <div>W</div> <div>H</div> <div>M</div> <div>I</div> <div>I</div> <div>S</div> <div>G</div> <div>L</div> <div>I</div> <div>V</div> <div>V</div>  | 14     |
| GCCCCTGCAGCTCCTTCATC ATG AAC TGG CAC ATG ATC TCT GGG CTT ATT GTG GTA GTG  | 220    |
|   |        |
| <div>L</div> <div>K</div> <div>V</div> <div>V</div> <div>G</div> <div>M</div> <div>T</div> <div>L</div> <div>F</div> <div>L</div> <div>L</div> <div>Y</div> <div>F</div> <div>P</div> <div>Q</div> <div>I</div> <div>F</div> <div>N</div> <div>K</div> <div>S</div> | 34     |
| CTT AAA GTT GTT GGA ATG ACC TTA TTT CTA CTT TAT TTC CCA CAG ATT TTT AAC AAA AGT   | 280    |
|   |        |
| <div>N</div> <div>D</div> <div>G</div> <div>F</div> <div>T</div> <div>T</div> <div>T</div> <div>R</div> <div>S</div> <div>Y</div> <div>G</div> <div>T</div> <div>V</div> <div>S</div> <div>Q</div> <div>I</div> <div>F</div> <div>G</div> <div>S</div> <div>S</div> | 54     |
| AAC GAT GGT TTC ACC ACC ACC AGG AGC TAT GGA ACA GTC TCA CAG ATT TTT GGG AGC AGT   | 340    |
|   |        |
| <div>S</div> <div>P</div> <div>S</div> <div>P</div> <div>N</div> <div>G</div> <div>F</div> <div>I</div> <div>T</div> <div>T</div> <div>R</div> <div>S</div> <div>Y</div> <div>G</div> <div>T</div> <div>V</div> <div>C</div> <div>P</div> <div>K</div> <div>D</div> | 62/361 |
| TCC CCA AGT CCC AAC GGC TTC ATT ACC ACA AGG AGC TAT GGA ACA GTC TGC CCC AAA GAC   | 400    |
|   |        |
| <div>W</div> <div>E</div> <div>F</div> <div>Y</div> <div>Q</div> <div>A</div> <div>R</div> <div>C</div> <div>F</div> <div>F</div> <div>L</div> <div>S</div> <div>T</div> <div>S</div> <div>E</div> <div>S</div> <div>S</div> <div>W</div> <div>N</div> <div>E</div> | 94     |
| TGG GAA TTT TAT CAA GCA AGA TGT TTT TTC TTA TCC ACT TCT GAA TCA TCT TGG AAT GAA   | 460    |
|   |        |
| <div>S</div> <div>R</div> <div>D</div> <div>F</div> <div>C</div> <div>K</div> <div>G</div> <div>K</div> <div>G</div> <div>S</div> <div>T</div> <div>L</div> <div>A</div> <div>I</div> <div>V</div> <div>N</div> <div>T</div> <div>P</div> <div>E</div> <div>K</div> | 114    |
| AGC AGG GAC TTT TGC AAA GGA AAA GGA TCC ACA TTG GCA ATT GTC AAC ACG CCA GAG AAA   | 520    |
|   |        |
| <div>L</div> <div>K</div> <div>F</div> <div>L</div> <div>Q</div> <div>D</div> <div>I</div> <div>T</div> <div>D</div> <div>A</div> <div>E</div> <div>K</div> <div>Y</div> <div>F</div> <div>I</div> <div>G</div> <div>L</div> <div>I</div> <div>Y</div> <div>H</div> | 134    |
| CTG AAG TTT CTT CAG GAC ATA ACT GAT GCT GAG AAG TAT TTT ATT GGC TTA ATT TAC CAT   | 580    |

Fig. 11A

|   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| R   | E   | E   | K   | R   | W   | R   | W   | I   | N   | N   | S   | V   | F   | N   | G   | N   | V   | T   | N   | 154  |
| CGT   | GAA | GAG | AAA | AGG | TGG | CGT | TGG | ATC | AAC | AAC | TCT | GTG | TTC | AAT | GGC | AAT | GTT | ACC | AAT | 640  |
| Q   | N   | Q   | N   | F   | N   | C   | A   | T   | I   | G   | L   | T   | K   | T   | F   | D   | A   | A   | S   | 174  |
| CAG   | AAT | CAG | AAT | TTC | AAC | TGT | GCG | ACC | ATT | GGC | CTA | ACA | AAG | ACA | TTT | GAT | GCT | GCA | TCA | 700  |
| C   | D   | I   | S   | Y   | R   | R   | I   | C   | E   | K   | N   | A   | K   | *   |     |     |     |     |     | 188  |
| TGT   | GAC | ATC | AGC | TAC | CGC | AGG | ATC | TGT | GAG | AAG | AAT | GCC | AAA | TGA |     |     |     |     |     | 745  |
| TCACAGTTCCCTGTGACAAAGAACTATACTTGCACACTCTTTTGAATCCATACAGGTCGCTGGCCAAATGATTCCTTTAC  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 824  |
| TTACCTATCTGTCTACCAAGTAGCGGTCTTGCCCATTTGGGAAACTGAGCTTCTTTCTGCACTGGGGACTGGATG       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 903  |
| CTAGCCATCTCCAGGAGACAGGATCAGTTTACGGAAACAACCTCAGTTAGTATAGAGATGAGGTCCTGCTTCTGTAGTAC  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 982  |
| TGAGCATTTCTGACTGATCAAAAAGGCCCTAGTCTGTGTGACAGGGTTGTTTATTTTAGCCTCAGAGTATACCATATA    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1061 |
| CTAGGAGTAACCTGTAGAGTGAGAAATATAAACAATATTTAGGATFACCATGTGTGGAAGAGGGATAAACAATAGGTCC   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1140 |
| TGTGACTTCGTCCTCTGTTCTCAAGGGAACCCATTACATGCCCTCCTAACTCCACAAGCAGGGTAGCAGAGGCTCT      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1219 |
| CCTCAGTCTGAACCTAAGGCTTGGCCTTGGGAGGGCTCCTAGTGTGAGCTTGGAGCAGCACGGACAGCAGCATTTGTTT   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1298 |
| ATGGGAATGGAGAGAGGTCTGGGACAGGATAGGAACCTTCTTGGAGACCCCTTTGAAGAAACCCAGGCAGCCAGGAGC    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1377 |
| CAACACACTAGATTCTGTTCTTCAGCAAAAGCCCTGAAGAGACACTTAAGCTAAAATTCCTTGTCTGAAGTTTGTGAA    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1456 |
| ACTCCATTATAACATATGTAACTCCTTTGTAAACCAAAATTTAGGTAAGCAGGCTTCTTGTCTCTGAAGTTTGTGAGTA   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1535 |
| CCTGGCTGTATTTGTTGAGTATTTTAAATTTTGGATAGTCTCTTAGGCAACAATAATCACAATATATTCATCCCCTC     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1614 |
| AGTTCTGGAGAAAGCCTGATACCAAGCACAGCCTACTGACCCCAAGGAGCCTGGCACTGATTGGCATCACATTGATCTA   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1693 |
| GAACTGGTCCAGCCCGGAAGAGTAGGAAAGAGAGGGCTGCTCAGGAAACAATTGGCTGGGGCACGGAATAAGCAC       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1772 |
| ATAGTAAAAGGGAACATCAGGGTCAAAATGAAATCACCTGAGACAGGAAACAGGGAGTTCAATTGGCCACACTGGAAG    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1851 |
| AAAGGCAAGAAAGAGGAAGACAAAGTCTTGGAGTACCCCTGGCTGTTCTCCACACTCACAAGACATCAGCTATACTCTGCT |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1930 |
| TGGTGCATAAGAAAGAGAAAGAGATGCCTTTTGTGTTTGTAGTAAGAATAATTAAACCATAAAGGAAGACCATGTATAA   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 2009 |
| AACTGATGGAAATAATAGTCAACCAAGTACAGCACATACCATTTTGTGTCTAATAACAATGTAGCACAGTAATGACTGT   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 2088 |

Fig. 11B

ACATGTCATTGTATACCAACAAGATTGTTGTAAATCATAATTTTATTACAACAATAAGTTCTGCTTCTGCATT 2167  
 CCTAGGTTTCATCATTTTGGCTCCTTAGCATGGCCACTTACAAATTTTAAACATGAGATAACACATCAGGTGTCAGAA 2246  
 CTTGCTTGAAGGAATTACCAGAAGTAATTTGTGTTTGAGATGGGTGGAATTTGGAATTATATTAGTAGCCGGTGGAG 2325  
 ATACAAGTTCTCTGACTGTGTTGGAAAGGATAAGTGTACCGTTGAGAAGGGAAGAAAGGCTGAGTCTAGGTGGAGAA 2404  
 AAATATCAACAGAACTCTAGCCAAGCAAGCCCAAGAACTCAGACAACAGAAAGGAAATCCTAATCCTTCTGTTTGA 2483  
 GAAGAGAAACTGTAGTTGCTTCACTTCCATTTCAATGACAGAAATAACTGCAAACTTTAAGATCAGGAAATGTAGACA 2562  
 TCTAGTGATTTCTTAGTAGACAGTTTAAATTTCCCAAGATAGGAGACACTTCTGTGAGGTTCTAAAGGAGCCCA 2641  
 ATGGCTGGGTGGGAGTAGATAGGGAATATGTGGGATTTGGTTTAAAGTTCAATCATTTGGGAGAGTTCTCTGGA 2720  
 TCCTTGCAAGCTTAGATAAAATGTGATCTTTATTAGATAGCAGTGGCATGCTTTTAAAAAAAAGGCAATGAAAAATTA 2799  
 GCAAGCCACTGAATTTGAGTTTTCACCTTTGTTTCTAATATGCTGTGTGAATCAGTACAGTTTCTTACCCTTCTTGGT 2878  
 CTTAATTTCCCTTACTGATAAAATGGGTAGTAATACCTATCTCAAAAAATTTATGACACATATTAAATAACATTCCTCTA 2957  
 TGTATCTCAATGGCATTAGACATTAGGAGAAGCATTTTGTGGAGGATTTGAAGTTGAGATCTTCATCCAAGAAGTAGCT 3036  
 TTTCAATTTGCTAGAAGCTTAATGTAGGCAAGCCACTTCATTTTCAGAACTTGTTTACTCATTTATAATATGGGAATA 3115  
 AAAAATTTGTGCAAGTCAGAGAAGGTGCCCTTAAAAATGTTGTGGCCAAGCCACATGAGATCAAAGACACACTTTTCATG 3194  
 ACCTCAAAATGTGGCCAGCCTAGGTAGGTCAGCCAAACCCCACTTACCTTAGACTCACGAACAATCCACCTGAGATCAG 3273  
 CAGAGCCACCCCTAGATCAGCTGAAACTCTAAGCACAAAAATAAAAACCTTATCACTGTAAAAAAAATAAAAAAAA 3352  
 GTCTCTCGTATAGCAAAATCTAACTGATGCAATCTCCATCTGGCCCTTCATCTCTCCCTTTATTGTCTTTCGTGTAT 3431  
 TGTTCATCCAGCAACCAGGATGATCTTGTGTTAAAAACATTAAACAGATTCTGTCAATCTTTMAAAAAAAAAGCCATGA 3510  
 AATTNTAGCAAGCCACTGAATTTGAGTTTTCACCTTTGGTTTCTAATAATGCTGTGTGAATCAGANCAGKTTTCTTACCCCT 3589  
 TTCTTGGTCTTAATTTCTGATAAAATGGGTGWTGTAATACCTATCTCAAAAAATTTATGACACATATTARATAACA 3668  
 TTCCCTCTATGTATCTCAATGGCATTAGACATTAGGAGAAGCATTTTGTGGAGGATTTGAAGTTGAGATCTTCATCCAAG 3747  
 AAGTAGCTTTTCAATTTGSTAGAAAGCTTAATGTAGCAAGCCACTTCATTTTTCAGAACTTGTTTACTCATTTATAATA 3826  
 TGGGAATAAAAAATTTGTGCAAGTCAGAGAAGGTGCCCTTAAAAATGTTGTGGCCCAAGCCACATGAGATCAAGACACAC 3905  
 TTTTTCATGACCTCAAAATGTGGGCCAGCCTAGGTGAGCCCAACCCCACTCCAACTTAGACTCACGAACAAATCCACCT 3984  
 GAGATCAGCAGAGCCACCCTAGATCAGCTGAAACTCTAAGCACAAAAATAAAAACTTATCACTGTAAAAAAAATAAAAA 4063

AAAAAAAGAA 4074

Fig. 11C

|  |     |
|--|-----|
| GTGTCGCGCGGAGGTGAGACTGTGAAGAAGAAACGTTGCTTGGGCAAAAGGAGCATATTCTCAGGAGACGGGGC       | 79  |
| CCCTGCCCTGCCACACCAAGCATTAGGCCACCAGGAAGACCCCCATCTGCAAGCAAGCCTAGCCTTCCAGGGAGAAAGAG | 158 |
|  |     |
| <div>M N W H M I I S G L I V V V</div> <div>14</div>                             |     |
| GCCCCCTGCAGCTCCTTCATC ATG AAC TGG CAC ATG ATC TCT GGG CTT ATT GTG GTA GTG        | 220 |
|  |     |
| <div>L K V V G M T L F L L Y F P Q I F N K S</div> <div>34</div>                 |     |
| CTT AAA GTT GTT GGA ATG ACC TTA TTT CTA CTT TAT TTC CCA CAG ATT TTT AAC AAA AGT  | 280 |
|  |     |
| <div>N D G F T T R S Y G T V S Q I F G S S</div> <div>54</div>                   |     |
| AAC GAT GGT TTC ACC ACC AGG AGC TAT GGA ACA GTC TCA CAG ATT TTT GGG AGC AGT      | 340 |
|  |     |
| <div>S P S P N G F I T R S Y G T V C P K D</div> <div>74</div>                   |     |
| TCC CCA AGT CCC AAC GGC TTC ATT ACC ACA AGG AGC TAT GGA ACA GTC TGC CCC AAA GAC  | 400 |
|  |     |
| <div>W E F Y Q A R C F F L S T S E S S W N E</div> <div>94</div>                 |     |
| TGG GAA TTT TAT CAA GCA AGA TGT TTT TTC TTA TCC ACT TCT GAA TCA TCT TGG AAT GAA  | 460 |
|  |     |
| <div>S R D F C K G K G S T L A I V N T P E K</div> <div>114</div>                |     |
| AGC AGG GAC TTT TGC AAA GGA AAA GGA TCC ACA TTG GCA ATT GTC AAC ACG CCA GAG AAA  | 520 |
|  |     |
| <div>L K F L Q D I T D A E K Y F I G L I Y H</div> <div>134</div>                |     |
| CTG AAG TTT CTT CAG GAC ATA ACT GAT GCT GAG AAG TAT TTT ATT GGC TTA ATT TAC CAT  | 580 |

Fig. 11D

|   |  |   |   |   |   |  |   |  |  |  |   |   |   |   |      |     |     |      |      |      |      |      |      |      |      |      |      |      |      |
|---|--|---|---|---|---|--|---|--|--|--|---|---|---|---|------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| R   | E  | E   | K   | R   | W   | R  | W   | I  | N  | N  | S   | V   | F   | N   | G    | K   | Y   | V    | N    | 154  |      |      |      |      |      |      |      |      |      |
| CGT   | GAA  | GAG   | AAA   | AGG   | TGG   | CGT  | TGG   | ATC  | AAC  | AAC  | TCT   | GTG   | TTC   | AAT   | GGC  | AAG | TAC | GTG  | AAC  | 640  |      |      |      |      |      |      |      |      |      |
| M   | P  | Q   | F   | P   | G   | D  | L   | G  | L  | L  | Q   | K   | T   | K   | P    | E   | I   | A    | G    | 174  |      |      |      |      |      |      |      |      |      |
| ATG   | CCA  | CAG   | TTT   | CCT   | GGG   | GAT  | CTT   | GGT  | TTG  | CTT  | CAA   | AAG   | ACC   | AAA   | CCT  | GAG | ATT | GCT  | GGG  | 700  |      |      |      |      |      |      |      |      |      |
| F   | T  | L   | E   | *   |   |  |   |  |  |  |   |   |   |   |      |     |     |      |      | 178  |      |      |      |      |      |      |      |      |      |
| TTC   | ACC  | CTG   | GAA   | TAG   |   |  |   |  |  |  |   |   |   |   |      |     |     |      |      | 715  |      |      |      |      |      |      |      |      |      |
| CTCAAACGCTGACACTTGACTCTGTTCTGCTCTTCTCCCTTCTTCCAAACCCATCTATTCCTATCTGTCTACCACTAGC | GGTCCCTTGCCCATTTGGGAAACTGAGCTTCTTCTTGCACTGGGGACTGGATGCTAGCCATCTCCAGGAGACAGGA | TCAGTTTACGGAAACAACCTCAGTTAGTATAGAGATGAGGTCCGCTTCTGTAGTACTGAGCATTTCTGACTGATCAAAA | AGGCCTAGTCTGTTGACAGGGTTTGTATTATTAGCCTCAGAGTATACCATACTACTAGGGAGTAACTGTAGAGTGAG | AAATTATAAACATTATTTAGGGATTACCATGTTGGAAGAGGGATAAACATAGTCCCTGTGACTTCGTCTCTGTTCTCAA | GGGAACCCCATTCACATGCCCTCCTAACTCCACAAGCGAGGGTAGCAGAGGCTCTCCTCAGTCTGAACCTAAGGCTTGG | CCCTTGGGAGGGCTCCTAGTGTGAGCTTGGAGCAGCACGGACAGCATTTGTTATGGGAATGGAGAGAGGCTCTGGG | CAGGATAGGAACCTTCTTGGAGACCCCTTTGAAGAAACACAGGAGCCAAACACACTAGATTCTGTCTCT | TCAGCAAAGCCCTGAAGAGACACTTAAGCTAAAAATTTCCCTTGTCATATTTCTGAAACTCCATTATAACATATGTAACT | CCCTTTGTAACCAAAATTTAGGTAAGCAGGCTTCCCTTGCTCTGAAGGTTTGTAGTACCTGGCTGTATTTGTTGAGTATT | TTTAAAAATTTGGATAGTCTCTTAGGCCAACATAATCACAAATATATTCACTCCCTTCAGTTCTGGAGAAAAGCCTGATACC | AGGCACAGCCCTACTGACCCCAAGGAGCCCTGGCACTGATTGGCATCACATTGATCTAGAACTGGTCCAGCCGCCGAAGAG | TAGGAAAAGAGAAGGCTGCTCAGGGAAACATTTGGCTGGGGCACGGAAATAAGCACATAGTAAAAAGGGAACATCAGGG | TCAAATGGAAATCACCTGAGACAGGAAACAGGGAGTTTCAATTTGCCACACTGGAAGAAAGCCAAGAAAGAGGAGACAA | GTCTTTGGAGTACCCCTGGCTGTTCTCCACACTCACAAAGACATCAGCTATACTCTGCTTGGTGCATAGAAAAGAGAAAAAGA | 1794 | 873 | 952 | 1031 | 1110 | 1189 | 1268 | 1347 | 1426 | 1505 | 1584 | 1663 | 1742 | 1821 | 1900 |

**Fig. 11E**

GATGCCCTTTGTGTTTGAAGTAAATTAACCATTAAGGAAGACCATGTATAAACTGATGGAAATAATAGTCACC 1979  
 AAAGTACAGCACATACCATTTTGTGCTAATAACAATGTAGCACAGTAATGACTGTACATGTCATTGTATGTATACCAA 2058  
 ACAAGATTGTTGTAATCATATTTTATTACAACACTAAGTTCTGCTTCTGCATTCTTAGGTTTCATCATTTTGGCT 2137  
 CCTAGCATGGCCACTTACAATTTTAAACATGAGATAACACATCAGGTGTCAGAACTTGCTTGAAGGAATTACCA 2216  
 AGTAATTTGTGTTGAGATGGGTGGAAATTTGGAATTATATTAGTAGCCGGTGGAGATACAAAGTTCTCTGACTGTGTTG 2295  
 GGAAAGGATAAGTGCTACCGTTGAGAAAGGAAGGCTGAGTCTAGGTGGAGAAAAATATCAACAGAACTCTAGCCA 2374  
 AAGGCAAGCCCGAAGCTCAGACAACAGAAAGGAATCCTAATCCTTCTGTTTGAAGAGAGAGAACTGTAGTTGCTTC 2453  
 ACTTCTATTTCATGACAGAAATACTGCAAACTTTAAGATCAGGAAATGTAGACATCTAGTGATTTCTTTAGTAGACA 2532  
 GTTTAATTTCCCCAAGATTAGGAGACACTTCTGTGCAGGTTCTAAAGGAGCCCAATGGCCCTGGGTGGAGTGGGA 2611  
 GTAGATAGGGAATATGTGGGATTGTTAAAGTTTCATCATTTGGGAGAGTTCTTGATCCTTGCAAGCTTAGATAAATGT 2690  
 GATCTTTATTAGATAGCAGTGGCATGCTTTTAAAAAAAAGGCAATGAAATTTAGCAAGCCACTGAATTTGAGTTT 2769  
 CACTTTGTTTCTAATATGCTGTGAATCAGTACAGTTTCTTACCTTTCTTGGTCTTAATTTCTTACTGATAAAAT 2848  
 GGGTAGTAATACCTATCTCAAAAAATTATTGCACATATTAATAACATTCTCTATGTATCTCAATGGCATTAGACAT 2927  
 TAGGAGAAGCATTTTGTGGAGATTGAAAGTTGAGATCTTCATCCAAAGTAGCTTTTCAATTTGCTAGAAGCTTAAT 3006  
 GTAGGCAAGCCACTTCAATTTTCAGAACTTTTACTCATTTATAATATGGGAATAAAATTTGTGCAAGTCAGAGAAG 3085  
 GGTGCTTAAAAATGTTGTGGCCCAAGCCACATGAGATCAAAGACACACTTTTCATGACCTCAAATGTGGCCCCAGCCTA 3164  
 GGTCAAGCAACCCCATCCCAACCTTAGACTCACGAACAAATCCACCTGAGATCAGCAGAGCCACCCTAGATCAGCTGA 3243  
 AACTCTAAGCACAAAAATAAAAACTTATCACTGTAAAAAATAAAAAAAGTCTCTCGTATAGCAAAATCTAA 3322  
 CTGATGCAATCTCCATCTGGCTTCATCCTTCTCCCTTTATTGTCTTCTGTTGTTTATGTTTATGTTTATGTTTATGTT 3401  
 TCTTGTAAAAACATTAAACAGATTCTGTCAKCTTTMAAAAAAAGCCATGAAATNTAGCAAGCCACTGAATTT 3480  
 GAGTTTTCACCTTTGTTTCTAATATGCTGTGAATCAGANCAGKTTTCTTACCCCTTTCTTGGTCTTAATTTCCCTTACT 3559  
 GATAAAATGGGTGTAATACCTATCTCAAAAAATTATTGCACATATTARATAACATTCTCTCTATGTATCTCAATGGCA 3638  
 TTAGACATTAGGAGAAGCATTTTGTGGAGGATTTGAAGTTGAGATCTTCATCCAAAGTAGCTTTTCAATTTGSTAGA 3717

Fig. 11F

AGCTTAATGTAGGCAAGCCACTTCAATTTTTCAGAACTTGTTTACTCATTTATAATATGGGAATAAAAAATTGTGCAAGT 3796  
 CAGAGAAGGGTGCCTTAAAAATGTTGTGGCCAAAGCCACATGAGATCAAAGACACACACTTTTCATGACCTCAAATGTGGGC 3875  
 CCAGCCTAGGTCAGCCAAACCCCATCCAAACCTTAGACTCAGCAACAAATCCACCTGAGATCAGCAGAGCCACCTTAGA 3954  
 TCAGCTGAAACTCTAAGCACAAAAATAAAACTTATCACTGTAAAAAATAAAAAAATAAAAAA 4018

Fig. 11G

GAGACTGTGAAGAAGGAACGTTGCTTGGGCAAAAGGAGCATATTCTCAGGAGACGGGGCCCTGCCACACCA 79  
 AGCATTAGGCCACCAGGAAGACCCCATCTGCAAGCAAGCCTAGCCTTCCAGGAGAAAGAGGCCCTGCAGCTCCTTC 158

M N W H M I I S G L I V V L K V V G 19  
 ATC ATG AAC TGG CAC ATG ATC ATC TCT GGG CTT ATT GTG GTA GTG CTT AAA GTT GTT GGA 218

M T L F L L Y F P Q I F N K S N D G F T 39  
 ATG ACC TTA TTT CTA CTT TAT TTC CCA CAG ATT TTT AAC AAA AGT AAC GAT GGT TTC ACC 278

T T R S Y G T V C P K D W E F Y Q A R C 59  
 ACC ACC AGG AGC TAT GGA ACA GTC TGC CCC AAA GAC TGG GAA TTT TAT CAA GCA AGA TGT 338

F F L S T S E S S W N E S R D F C K G K 79  
 TTT TTC TTA TCC ACT TCT GAA TCA TCT TGG AAT GAA AGC AGG GAC TTT TGC AAA GGA AAA 398

G S T L A I V N T P E K L K F L Q D I T 99  
 GGA TCC ACA TTG GCA ATT GTC AAC ACG CCA GAG AAA CTG AAG TTT CTT CAG GAC ATA ACT 458

Fig. 11H



|  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| D  | A   | E   | K   | Y   | F   | I   | G   | L   | I   | Y   | H   | R   | E   | E   | K   | R   | W   | R   | W   | 119  |
| GAT  | GCT | GAG | AAG | TAT | TTT | ATT | GGC | TTA | ATT | TAC | CAT | CGT | GAA | GAG | AAA | AGG | TGG | CGT | TGG | 518  |
| I  | N   | N   | S   | V   | F   | N   | G   | N   | V   | T   | N   | Q   | N   | Q   | N   | F   | N   | C   | A   | 139  |
| ATC  | AAC | AAC | TCT | GTG | TTC | AAT | GGC | AAT | GTT | ACC | AAT | CAG | AAT | CAG | AAT | TTC | AAC | TGT | GCG | 578  |
| T  | I   | G   | L   | T   | K   | T   | F   | D   | A   | A   | S   | C   | D   | I   | S   | Y   | R   | R   | I   | 159  |
| ACC  | ATT | GGC | CTA | ACA | AAG | ACA | TTT | GAT | GCT | GCA | TCA | TGT | GAC | ATC | AGC | TAC | CGC | AGG | ATC | 638  |
| C  | E   | K   | N   | A   | K   | *   |     |     |     |     |     |     |     |     |     |     |     |     |     | 165  |
| TGT  | GAG | AAG | AAT | GCC | AAA | TGA |     |     |     |     |     |     |     |     |     |     |     |     |     | 659  |
| TCACAGTCCCTGTGACAAGAACTATACTTGCAACTCTTTTGAATCCATACAGGTCGTGGCCAAATGATCTTTTAC      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 738  |
| TTACCTATCTGTCTACAGTAGCGGTCCTTGCCCATTTGGAAACTGAGCTTCTTCTTGCACTGGGGACTGGATG        |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 817  |
| CTAGCCATCTCCAGGAGACAGGATCAGTTTACGGAAACAACCTCAGTTAGTATAGAGATGAGGTCCGCTTCTGTAGTAC  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 896  |
| TGAGCATTTCTGACTGATCAAAAAGGCCCTAGTCTGTTGACAGGGTTTGTATTTTAGCCCTCAGAGTATACCATATA    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 975  |
| CTAGGGAGTAACTGTAGAGTGAGAAATTATAAACATTATTAGGGATTACCATGGTGAAGAGGGATAAACATAGGTCC    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1054 |
| TGTGACTTCGTCTCTGTTCTCAAGGGAACCCCATTCACATGCCCTCCTAACTCCACAAGCGAGGTAGCAGAGGCTCT    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1133 |
| CCTCAGTCTGAACCTAAGGCTTGGCCTTGGGAGGGCTCCTAGTGTGAGCTTGAGCAGCACGGACAGCAGCATTTGTTT   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1212 |
| ATGGGAATGGAGAGAGGTCTGGGCAGGATAGGAACCTTCTTGGAGACCCCTTTGAAGAAAACCCAGGCAGCCAAAGGAGC |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1291 |
| CAACACACTAGATTCTGTTCTTCAGCAAAGCCCTGAAGAGACACTTAAGCTAAAAATTCCTTGTCAATATTCTGAA     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1370 |
| ACTCCATTATAACATATGTAACCTCTTTGTAACCAAAAATTTAGGTAAGCAGGCTTCCTTTGCTCTGAAGGTTTGTAGTA |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1449 |
| CCTGGCTGTATTTGTTGAGTATTTTAAAAATTTTGGATAGTCTCTTAGGCAACAATAATCACAAATATATCATCCCTTC  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1528 |
| AGTTCTGGAGAAAGCCTGATACCAGGCACAGCCTACTGACCCCAAGGAGCCTGGCACTGATGGCATCACATTGATCTA   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1607 |

Fig. 11I

GAACTGGTCCAGCCGCGAAGAGTAGGAAAAGAGAAGGGCTGCTCAGGGAAACATTTGGCTGGGGCACGGAATAAGCAC 1686  
 ATAGTAAAAAGGGAACATCAGGGTCAAATGGAAATCACCTGAGACAGGAAACAGGGAGTTTCATTTGGCCACACTGGAAG 1765  
 AAGGCAAGAAAGAGGAAAGACAGTCTTGGAGTACCTGGCTGTTCTCCACACTCACAAGACATCAGCTATACTCTGCT 1844  
 TGGTGCAATAAGAAAGAGAAAGAGATGCCTTTTGTGTTTGTAGTAAGAATAATAAACCATTAAGGAAGACCATGTATAA 1923  
 AACTGATGGAAATAATAGTCAACCAAGTACAGCACATACCATTTTGTGTCTAATAACAATGTAGCACAGTAATGACTGT 2002  
 ACATGTCATTGTATGTATACCAAAACAAGATTGTTGTAATCATATTTTATTACAACACTAAGTTCTGCTTCTGCATT 2081  
 CCTAGGTTTCATCATTTTGGCTCCTTAGCATGGCCACTTACAATTTTAAACATGAGATAACACATCAGGTGTCAGAA 2160  
 CTTGCTTGAAGGGAATTACCAGAAAGTAATTTGTGTTTGTAGATGGGTGGAATTTGGAATTATATTAGTAGCCGGTGGAG 2239  
 ATACAAGTTCTCTGACTGTGTTGGGAAAGGATAAGTGCTACCGTTGAGAAGGGAAGAAAGGCTGAGTCTAGGTGGAGAA 2318  
 AAATATCAACAGAACTCTAGCCAAAGCAAGCCCGAGAACTCAGACAACAGAAAGGAAATCCTAATCCTTCTGTTTGA 2397  
 GAAGAGAGAACTGTAGTTGCTTCACTTCCATTTTCATGACAGAATAACTGCAAACTTTTAAAGATCAGGAAATGTAGACA 2476  
 TCTAGTGATTTCTTTAGTAGACAGTTTAATTTCCCCCAAGATTAGGAGACACTTCTGTGCAGGTTCTAAAAGGAGCCCA 2555  
 ATGGCCCTGGGTGGGAGTGGGAGTAGATAGGGAATATGTGGGATTGGGTTAAAGTTTCATCATTTGGGAGAGTTCCTGGA 2634  
 TCCTTGCAAGCTTAGATAAATGTGATCTTTATTAGATAGCAGTGGCATGCTTTTAAAAAAAAGCAATGAAAATTTA 2713  
 GCAAGCCACTGAATTTGAGTTTTCACCTTTGTTCTAATAATGCTGTGTAATCAGTACAGTTTCTTACCCTTTCTTGGT 2792  
 CTTAATTTCCCTTACTGATAAAATGGGGTAGTAATACCTATCTCAAAAAATTATTGCACATATTAAATAACATTCCTCTA 2871  
 TGTATCTCAATGGCATTAGACATTAGGAGAAGCATTTTGTGGAGGATTTGAAGTTGAGATCTTCATCCAAGAAGTAGCT 2950  
 TTTCAAATTTGCTAGAAGCTTAATGTAGGCAAGCCACTTCATTTTTCAGAACTTGTCTACTCATTTATAATATGGGAATA 3029  
 AAAATTTGTGCAAGTCAGAGAAGGTGCCCTTAAAAATGTTGTGGCCAAAGCCACATGAGATCAAAGACACACTTTTCATG 3108  
 ACCTCAAATGTGGGCCAGCCTAGGTGAGCCAAACCCCATCCAACTTAGACTCAGCAACAAATCCACCTGAGATCAG 3187  
 CAGAGCCACCCTAGATCAGCTGAAACTCTAAGCACAAAAATAAAAACTTATCAGTGTAAAAAAAATAAAAAAAA 3266  
 GTCTCTCGTATAGCAAAAATCTAACTGATGCAATCTCCATCTGGCCCTTCATCCTTCTCCCTTTATTGTCCCTTTCGTGTAT 3345  
 TGTTCATCCAGCAACCAGGATGATCTTGTAAAAACATTAAACAGATTCTGTCAKCTTTMAAAAAATAAAAAAGCCATGA 3424  
 AATTNTAGCAAGCCACTGAATTTGAGTTTTCACCTTTGGTTTCTAATAATGCTGTGTGAATCAGANCAGKTTTCTTACCCT 3503

Fig. 11J

TTCTTGGTCTTAATTCCCTTACTGATAAAAATGGGTGTAATACCTATCTCAAAAAATTATTGCACATATTARATAACA 3582  
 TTCCCTCTATGTATCTCAATGGCATTAGACATTAGGAGAGCATTTTGTGGAGGATTGGAAGTTGAGATCTTTCATCCCAAG 3661  
 AAGTAGCTTTTCAATTGTTGTTAGGCAAGCCACTTCAATTTTTCAGAACTTGTCTTACTCATTATAATA 3740  
 TGGGAATAAAAAATTGTGCAAGTCAGAGAAGGTGCCCTTAAAAATGTTGTGCCAAGCCACATGAGATCAAAAGACACAC 3819  
 TTTTCATGACCTCAAAATGTGGGCCAGCCCTAGGTAGCCCAACCCCATCCAACTTACACTCAGCAACAAATCCACCT 3898  
 GAGATCAGCAGAGCCCTAGATCAGCTGAAACTCTAAGCACAAAAATAAAAACTTATCACTGTAAAAAATAAAAAA 3977  
 AAAAAAA 3985

Fig. 11K

GAGACTGTGAAGAAGGAACGTTGCTTGGGCAAAAAGGAGCATATTCTCAGGAGACGGGGCCCCCTGCCTGCCACACCA 79

AGCATTAGGCCACCAGGAAGACCCCATCTGCAAGCAAGCCTAGCCTTCCAGGAGAAAGAGGCCCTGCAGCTCCTTC 158

M N W H M I I S G L I V V V L K V V G 19  
 ATC ATG AAC TGG CAC ATG ATC ATC TCT GGG CTT ATT GTG GTA GTG CTT AAA GTT GTT GGA 218

M T L F L L Y F P Q I F N K S N D G F T 39  
 ATG ACC TTA TTT CTA CTT TAT TTC CCA CAG ATT TTT AAC AAA AGT AAC GAT GGT TTC ACC 278

T T R S Y G T V C P K D W E F Y Q A R C 59  
 ACC ACC AGG AGC TAT GGA ACA GTC TGC CCC AAA GAC TGG GAA TTT TAT CAA GCA AGA TGT 338

Fig. 11L

|  |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|--|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| F  | F    | L   | S   | T   | S   | E   | S   | S   | W   | N   | E   | S   | R   | D   | F   | C   | K   | G   | K   |     | 79  |
| TTT  | TTC  | TTA | TCC | ACT | TCT | GAA | TCA | TCT | TGG | AAT | GAA | AGC | AGG | GAC | TTT | TGC | AAA | GGA | AAA |     | 398 |
| G  | S    | T   | L   | A   | I   | V   | N   | T   | P   | E   | K   | L   | K   | F   | L   | Q   | D   | I   | T   |     | 99  |
| GGA  | TCC  | ACA | TTG | GCA | ATT | GTC | AAC | ACG | CCA | GAG | AAA | CTG | AAG | TTT | CTT | CAG | GAC | ATA | ACT |     | 458 |
| D  | A    | E   | K   | Y   | F   | I   | G   | L   | I   | Y   | H   | R   | E   | E   | K   | R   | W   | R   | W   |     | 119 |
| GAT  | GCT  | GAG | AAG | TAT | TTT | ATT | GGC | TTA | ATT | TAC | CAT | CGT | GAA | GAG | AAA | AGG | TGG | CGT | TGG |     | 518 |
| I  | N    | N   | S   | V   | F   | N   | G   | K   | Y   | V   | N   | M   | P   | Q   | F   | P   | G   | D   | L   |     | 139 |
| ATC  | AAC  | AAC | TCT | GTG | TTC | AAT | GGC | AAG | TAC | TAC | GTG | AAC | ATG | CCA | CAG | TTT | CCT | GGG | GAT | CTT | 578 |
| G  | L    | L   | Q   | K   | T   | K   | P   | E   | I   | A   | G   | F   | T   | L   | E   | *   |     |     |     |     | 155 |
| GGT  | TTG  | CTT | CAA | AAG | ACC | AAA | CCT | GAG | ATT | GCT | GGG | TTC | ACC | CTG | GAA | TAG |     |     |     |     | 629 |
| CTCAAACGCTGACACTTGACTCTGTTCTGCTCTTCTCCTTTCTTCCAAACCCATCTATTTCCCTATCTGTCTACCATAGC | 708  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| GGTCCTTGCCCATTTGGGAAACTGAGCTTCTTTCTGCACTGGGGACTGGATGCTAGCCATCTCCAGGAGACAGGA      | 787  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| TCAGTTTACGGAAACAACCTCAGTTAGTATAGAGATGAGGTCCGCTTCTGTAGTACTGAGCAATTTCTGACTGATCAAAA | 866  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| AGGCCTAGTCTGTTGACAGGGTTTGTATTTTAGCCCTCAGAGTATACCATACTACTAGGGAGTAACTGTAGAGTGAG    | 945  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| AAATTATAAACATTATTTAGGATTACCATGGTGAAGAGGGATAAACATAGGTCCCTGTGACTTCGTCTCTGTCTCAA    | 1024 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| GGGAACCCCATTCACATGCCCTCCTAACTCCACAAGCGAGGGTAGCAGGGCTCTCCTCAGTCTGAACCTAAGGCTTGG   | 1103 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| CCTTGGGGAGGGCTCCTAGTGCTGAGCTTGGAGCAGCACGGACAGCATTTGTTATGGGAATGGAGAGAGGTCTGGG     | 1182 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| CAGGATAGGAACCTTCTTGGAGACCCCTTTGAAGAAAACAGGCAGCCAAAGGAGCCAAACACACTAGATTTCTGTTCT   | 1261 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| TCAGCAAAGCCCTGAAGAGACACTTAAGCTAAATAATCCCTTGTCTATATTTCTGAAACTCCATTATAACATATGTAAC  | 1340 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

Fig. 11M

CCTTTGTAACCAAAATTTAGGTAAGCAGGCTTCCCTTTGCTCTGAAGGTTTTTGAGTACCTGGCTGTATTTGTTGAGTATT 1419  
 TTTAAAAATTTTGGATAGTCTCTTAGGCAACAATAATCACAAATATATTCATCCCTTCAGTTCTGGAGAAAAGCCCTGATACC 1498  
 AGGCACAGCCTACTGACCCCAAGGAGCCTGGCACTGATGGCATCACATTCATCTAGAACTGGTCCAGCCGCCGAAGAG 1577  
 TAGGAAAAGAGAAGGCTGCTCAGGGAACAATTGGCTGGGGCACGGAATAAGCACATAGTAAAAAGGGAACATCAGGG 1656  
 TCAAAATGGAAATCACCTGAGACAGGAAACAGGGAGTTTCATTTGGCCACACTGGAGAAAGGCAAGAAAGAGGAGACAA 1735  
 GTCTTGGAGTACCCCTGGCTGTTCTCCACACTCACAAAGACATCAGCTATATCTGCTTGGTGATAGAAAAGAGAAAAGA 1814  
 GATGCCCTTTTGTGTTTGAAGTAAGAAATAATAAACCATAGGAAGACCATGTATAAACTGATGGAATAATAGTCACC 1893  
 AAAGTACAGCACATACCATTTTGTGTCTAATAACAATGTAGCACAGTAATGACTGTACATGTTCATTTGTATGTATACCAA 1972  
 ACAAGATTGTTGTAAATCATATTTTTTTATTACAACACTAAGTTCTGCTTCTGCATTCCTAGGTTTCATCATTTTTTGGCT 2051  
 CCTTAGCATGGCCACTTACAATTTTTTAACATGAGATAACACATCAGGTGTCAGAACTTGCTTGAGGGAATTACCAGA 2130  
 AGTAATTGTGTTGAGATGGGTGGAATTTGAATTTATATTAGTAGCCGGTGAGATACAAAGTTCTCTGACTGTGTTG 2209  
 GGAAAGGATAAGTGCTACCGTTGAGAAAGGGAAGAAAGGCTGAGTCTAGGTGGAGAAAAATATCAACAGAACTCTAGCCA 2288  
 AAGGCAAGCCCCAGAACTCAGACAACAGAAAGGAAATCCTAATCCTTCTGTTTGGAGAGAGAACTGTAGTTGCTTC 2367  
 ACTTCCCTATTTCATGACAGAATAACTGCAAACTTTTAAGATCAGGAAATGTAGACATCTAGTGATTTCTTTAGTAGACA 2446  
 GTTAAATTTCCCCCAAGATTAGGAGACACTTCTGTGCAGGTTCTAAAGAGGCCCAATGGCCTGGGTGGGAGTGGGA 2525  
 GTAGATAGGGAATATGTGGGATTTGGTTTAAGTTTCATCATTTGGGAGAGTTCCCTGGATCCTTGCAAGCTTAGATAAATGT 2604  
 GATCTTTATTAGATAGCAGTGGCATGCTTTTAAAAAAAAGCAATGAAATTTAGCAAGCCACTGAATTTGAGTTT 2683  
 CACTTTGTTTCTAATATGCTGTGAATCAGTACAGTTTCTTACCCTTTCTTGGTCTTAAATTTCTTACTGATAAAAT 2762  
 GGGTAGTAATACCTATCTCAAAAAATTTATGCACATATTAATAAACATTCCTCTATGTATCTCAATGGCATTAGACAT 2841  
 TAGGAGAAGCATTTTGTGGAGGATTTGAAGTTGAGATCTTCATCCAGAAAGTAGCTTTTCAATTTGCTAGAAAGCTTAAT 2920  
 GTAGGCAAGCCACTTCATTTTTCAGAACTTGTACTCATTTATAATGGGAATAAAAAATTTGTGCAAGTCAGAGAAG 2999  
 GGTGCCCTTAAAAATGTTGTGGCCCAAGCCACATGAGATCAAAGACACACTTTTTCATGACCTCAAAATGTGGGCCCCAGCCTA 3078  
 GGTGAGCCCAACCCCATCCAAACCTTAGACTCAGGAACAAATCCACCTGAGATCAGCAGAGCCACCTAGATCAGCTGA 3157  
 AACTCTAAGCACAAAAATAAAAACTTATCACTGTAAAAAAAAGTCTCTCGTATAGCAAAATCTAA 3236

Fig. 11N

CTGATGCAATCTCCATCTGGCCCTTCATCCCTTTATTTGTCCTTTTCGTGTATTGTTTCATCCAGCAACCAGGATGA 3315  
TCTTGTTAAAAACATTAAACAGATTCTGTCAKCTTTTMAAAAAAAGCCCATGAAATTTNTAGCAAGCCACTGAATTT 3394  
GAGTTTTCACCTTTGGTTCTAATATGCTGTGAATCAGANCAGKTTTCTTACCTTTCTTGGTCTTAATTTCCCTTACT 3473  
GATAAAATGGGTGTAATACCTATCTCAAAAAATATTGCACATATTARATAACATTCCTCTATGTATCTCAATGGCA 3552  
TTAGACATTAGGAGAAGCATTTTGTGGAGGATTGAAAGTTGAGATCTTCATCCAGAGTAGCTTTTCAATTTGSTAGA 3631  
AGCTTAATGTAGGCAAGCCACTTCAATTTTCAGAACTTGTTTACTCATTATAATATGGGAATAAAAAATTTGTGCAAGT 3710  
CAGAGAAGGTGCCCTTAAAAATGTTGTGGCCAAGCCACATGAGATCAAAGACACACTTTTCATGACCTCAAATGTGGGC 3789  
CCAGCCTAGGTCAGCCAAACCCCATCCAACTTAGACTCACGAAACAAATCCACCTGAGATCAGCAGAGCCACCCCTAGA 3868  
TCAGCTGAACTCTAAGCACAAAAATAAAAACTTATCACTGTAAAAAATAAAAAAAGAACGACCTGCCCG 3947  
GGCGGCCGCC 3958

Fig. 110

GAGACTGTGAAGAAAGAACGTTGCTTGGGCAAAAGAGACATATTCTCAGGAGACGGGCCCCCTGCCTGCCACACCA 79  
AGCATTAGGCCACCAGGAAGACCCCCCATCTGCAAGCAAGCCTAGCCTTCCAGGGAGAAAGAGGCCCTGCAGCTCCTTC 158

M N W H M I I S G L I V V L K V V G 19  
ATC ATG AAC TGG CAC ATG ATC ATC TCT GGG CTT ATT GTG GTA GTG CTT AAA GTT GTT GGA 218  
M T L F L L Y F C P K D W E F Y Q A R C 39  
ATG ACC TTA TTT CTA CTT TAT TTC TGC CCC AAA GAC TGG GAA TTT TAT CAA GCA AGA TGT 278  
F F L S T S E S S W N E S R D F C K G K 59  
TTT TTC TTA TCC ACT TCT GAA TCA TCT TGG AAT GAA AGC AGG GAC TTT TGC AAA GGA AAA 338

Fig. 11P

|  |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|--|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| G  | S    | T   | L   | A   | I   | V   | N   | T   | P   | E   | K   | L   | K   | F   | L   | Q   | D   | I   | T   | 79  |
| GGA  | TCC  | ACA | TTG | GCA | ATT | GTC | AAC | ACG | CCA | GAG | AAA | CTG | AAG | TTT | CTT | CAG | GAC | ATA | ACT | 398 |
| D  | A    | E   | K   | Y   | F   | I   | G   | L   | I   | Y   | H   | R   | E   | E   | K   | R   | W   | R   | W   | 99  |
| GAT  | GCT  | GAG | AAG | TAT | TTT | ATT | GGC | TTA | ATT | TAC | CAT | CGT | GAA | GAG | AAA | AGG | TGG | CGT | TGG | 458 |
| I  | N    | N   | S   | V   | F   | N   | G   | N   | V   | T   | N   | Q   | N   | Q   | N   | F   | N   | C   | A   | 119 |
| ATC  | AAC  | AAC | TCT | GTG | TTC | AAT | GGC | AAT | GTT | ACC | AAT | CAG | AAT | CAG | AAT | TTC | AAC | TGT | GCG | 518 |
| T  | I    | G   | L   | T   | K   | T   | F   | D   | A   | A   | S   | C   | D   | I   | S   | Y   | R   | R   | I   | 139 |
| ACC  | ATT  | GGC | CTA | ACA | AAG | ACA | TTT | GAT | GCT | GCA | TCA | TGT | GAC | ATC | AGC | TAC | CGC | AGG | ATC | 578 |
| C  | E    | K   | N   | A   | K   | *   |     |     |     |     |     |     |     |     |     |     |     |     |     | 145 |
| TGT  | GAG  | AAG | AAT | GCC | AAA | TGA |     |     |     |     |     |     |     |     |     |     |     |     |     | 599 |
| TCACAGTCCCTGTGACAAGAACTATACTTGCAACTCTTTTGAATCCATACAGGTCGTGGCCAATGATTTTAC       | 678  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| TTACCTATCTGTCTACAGTAGCGGTCCTTGCCCATTTGGGAACTGAGCTTCTTTCTGCACTGGGGACTGGATG      | 757  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| CTAGCCATCTCCAGGAGACAGGATCAGTTTACGGAAACAACTCAGTTAGTATAGAGATGAGGTCCGCTTCTGTAGTAC | 836  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| TGAGCATTTCTGACTGATCAAAAAGGCCCTAGTCTGTTGACAGGGTTTGTATTTTAGCCCTCAGAGTATACCATATA  | 915  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| CTAGGGAGTAAGTGTAGAGTGAGAAATTATAAACATTATTAGGATTACCATGTTGGAAGAGGATAAACATAGGTCC   | 994  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| TGTGACTTCGTCTCTGTTCTCAAGGGAACCCCATTCACATGCCCTCCTAACTCCACAAAGCGAGGTAGCAGAGGCTCT | 1073 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| CCTCAGTCTGAACCTAAGGCTTGGCCTTGGGAGGGCTCCTAGTGTGAGCTTGAGCAGCACGGACAGCATTTGTTT    | 1152 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| ATGGGAATGGAGAGAGGTCTGGGCAGGATAGGAACCTTCTTGGAGACCCCTTTGAAGAAACCAGGCAGCCAAGGGAGC | 1231 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

Fig. 11Q

CAAACACACTAGATTCTGTTCTTTCAGCAAAAGCCCTGAAGAGACACTTAAGCTAAAAATTCCCTTGTCAATATTCTGAA 1310  
 ACTCCATTATAACATATGTAACCTCTTTGTAAACCAAAATTTAGGTAAAGCAGGCTTCCTTTGCTCTGAAGGTTTTTGAGTA 1389  
 CCTGGCTGTATTTGTTGAGTATTTTAAATTTTGGATAGTCTCTTAGGCAACAATAATCACAATATATTCATCCCTTC 1468  
 AGTCTGGAGAAAGCCTGATACAGGCACAGCCTACTGACCCCAAGGAGCCTGGCACTGATTGGCATCACATTGATCTA 1547  
 GAACTGGTCCAGCCCGGAAGAGTAGGAAAAGAGAAAGGGCTGCTCAGGGAAACATTTGGCTGGGGGCACGGAATAAGCAC 1626  
 ATAGTAAAAAGGGAACATCAGGGTCAATGGAATCACCTGAGACAGGAAACAGGGAGTTTCATTTGGCCACACTGGAAG 1705  
 AAAGGCAAGAAAGAGGAAGACAAAGTCTTGGAGTACCCCTGGCTGTTCTCCACACTCACAAAGACATCAGCTATACTCTGCT 1784  
 TGGTGCAATAAGAAAGAGAAAGAGATGCCCTTTTGTGTTTGAGTAAAGAAATAATTAACCATAAAGGAAGACCATGTATAA 1863  
 AACTGATGGAAATAATAGTCAACCAAGTACAGCACATACCATTTTGTGTCTAATAACAATGTAGCACAGTAATGACTGT 1942  
 ACATGTCATTGTATGTATACCAACAAGATTGTTGTAATCATATTTTATTACAACACTAAGTTCTGCTTCTGCATT 2021  
 CCTAGGTTTCATCATTTTGGCTCCTTAGCATGGCCACTTACAATTTTAAACATGAGATAACACATCAGGTGTCAGAA 2100  
 CTTGCTTGAAAGGAATTACCAGAAAGTAATTTGTGTTTGAGATGGGTGGAAATTGGAATTATATTAGTAGCCGGTGGAG 2179  
 ATACAAAGTTCTCTGACTGTGTTGGAAAGGATAAGTGTACCGTTGAGAAAGGAGAAAGGCTGAGTCTAGGTGGAGAA 2258  
 AAATATCAACAGAACTCTAGCCAAAGCAAGCCCAAGAACTCAGACAAACAGAAAGGAAATCCTAATCCTTCTGTTTGA 2337  
 GAAGAGAGAACTGTAGTTGCTTCACCTTCCCTATTTCATGACAGAAATACTGCAAACTTTTAAAGATCAGGAAATGTAGACA 2416  
 TCTAGTGATTTCTTTAGTAGACAGTTTAATTTCCCCCAAGATTAGGAGACACTTCTGTGCAGGTTCTAAAAGGAGCCCA 2495  
 ATGGCCCTGGGTGGGAGTAGAGGGAATATGTGGGATTTGGTTAAAGTTTCATCATTTGGGAGAGTTCCTGGA 2574  
 TCCTTGCAAGCTTAGATAAATGTGATCTTTATTAGATAGCAGTGGCATGCTTTTAAAAAAAAGGCAATGAAAAATTTA 2653  
 GCAAGCCACTGAATTTGAGTTTTCACCTTTGTTTCTAATATGCTGTGTGAATCAGTACAGTTTTCCTTACCCCTTCTTGGT 2732  
 CTTAATTTCCCTTACTGATAAAATGGGTAGTAATACCTATCTCAAAAAAATATTGCACATATTAAATAACATTCCCTCTA 2811  
 TGTATCTCAATGGCATTAGACATTAGGAGAAAGCATTTTGTGGAGGATTTGAAGTTGAGATCTTCATCCAAAGAGTAGCT 2890  
 TTTCAATTTGCTAGAAAGCTTAATGTAGGCAAGCCACTTCATTTTTCAGAACTTGTTTACTCATTTATAATATGGGAATA 2969  
 AAAATTTGTGCAAGTCAGAGAAAGGTGCCTTAAAAATGTTGTGGCCAAAGCCACATGAGATCAAAGACACACTTTTCATG 3048  
 ACCTCAAATGTGGGCCAGCCTAGGTACGCCAACCCCATCCAACTTAGACTCACGAACAAATCCACCTGAGATCAG 3127

Fig. 11R



CAGAGCCACCCCTAGATCAGCTGAACTCTAAGCACAAAAATAAAACTTATCACTGTAAAAAATAAAAAA  
 3206  
 GTCTCTCGTATAGCAAAATCTAACTGATGCAATCTCCATCTGGCCTTCATCCTTCTCCCTTTATTGTCCTTTTCGTGTAT  
 3285  
 TGTTCATCCAGCAACCAGGATGATCTTGTAAACATTAACAGATTCTGTCAYKCTTTMAAAAAAAGCCATGA  
 3364  
 AATTNTAGCAAGCCACTGAATTTGAGTTTTCACCTTTGTTCTAATAATGCTGTGTAATCAGANCAGKTTTCTTACCT  
 3443  
 TTCTTGGTCTTAATTTCCCTTACTGATAAAATGGGGTGTAAATACCTATCTCAAAAAATATTGCACATATTARATAACA  
 3522  
 TTCCTCTATGTATCTCAATGGCATTAGACATTAGGAGAAAGCATTTTGTGGAGGATTGAAGTTGAGATCTTCATCCAAG  
 3601  
 AAGTAGCTTTTCAATTTGSTAGAGCTTAATGTAGGCAAGCCACTTCATTTTTCAGAACTTGTTTACTCATTTATAATA  
 3680  
 TGGGAATAAAAAATTTGTGCAAGTCAGAGAAGGGTGCCCTTAAAAATGTTGTGGCCAAAGCCACATGAGATCAAGACACAC  
 3759  
 TTTTCATGACCTCAAATGTGGGCCCAGCCTAGGTGAGCCCAACCCCATCCACCTTAGACTCACGAAACAAATCCACCT  
 3838  
 GAGATCAGCAGAGCCACCCCTAGATCAGCTGAAACTCTAAGCACAAAAATAAAAACTTATCACTGTAAAAAATAAAAAA  
 3917  
 AAAAAAA  
 3925

Fig. 11S

|  |     |
|--|-----|
| GAGACTGTGAAGAAAGACGTTGCTTGGGCAAAAGAGAGCATATTCTCAGGAGACGGGGCCCCCTGCCACACCA  | 79  |
| AGCATTAGGCCACCAGGAAGACCCCCCATCTGCAAGCAAGCCTAGCCTTCCAGGGAGAAAGAGGCCCTGCAGCTCCTTC  | 158 |
|  |     |
| M      N      W      H      M      I      I      S      G      L      I      V      V      L      K      V      V      G               | 19  |
| ATC ATG AAC TGG CAC ATG ATC ATC TCT GGG CTT ATT GTG GTA GTG CTT AAA GTT GTT GGA  | 218 |
|  |     |
| M      T      L      F      L      L      Y      F      C      P      K      D      W      E      F      Y      Q      A      R      C | 39  |
| ATG ACC TTA TTT CTA CTT TAT TTC TGC CCC AAA GAC TGG GAA TTT TAT CAA GCA AGA TGT  | 278 |
|  |     |
| F      F      L      S      T      S      E      S      S      W      N      E      S      R      D      F      C      K      G      K | 59  |
| TTT TTC TTA TCC ACT TCT GAA TCA TCT TGG AAT GAA AGC AGG GAC TTT TGC AAA GGA AAA  | 338 |
|  |     |
| G      S      T      L      A      I      V      N      T      P      E      K      L      K      F      L      Q      D      I      T | 79  |
| GGA TCC ACA TTG GCA ATT GTC AAC ACG CCA GAG AAA CTG AAG TTT CTT CAG GAC ATA ACT  | 398 |
|  |     |
| D      A      E      K      Y      F      I      G      L      I      Y      H      R      E      E      K      R      W      R      W | 99  |
| GAT GCT GAG AAG TAT TTT ATT GGC TTA ATT TAC CAT CGT GAA GAG AAA AGG TGG CGT TGG  | 458 |
|  |     |
| I      N      N      S      V      F      N      G      K      Y      V      N      M      P      Q      F      P      G      D      L | 119 |
| ATC AAC AAC TCT GTG TTC AAT GGC AAG TAC GTG AAC ATG CCA CAG TTT CCT GGG GAT CTT  | 518 |
|  |     |
| G      L      L      Q      K      T      K      P      E      I      A      G      F      T      L      E      *                      | 135 |
| GGT TTG CTT CAA AAG ACC AAA CCT GAG ATT GCT GGG TTC ACC CTG GAA TAG  | 569 |

Fig. 11T

CTCAAACGCTGACACTTGACTCTGTTCTGCTCTTCTCCTTTCTTCCAACCCATCTATTCCCCTATCTGTCTACCAGTAGC 648  
GGTCCTTGCCCATTTGGGAAACTGAGCTTCTTTCTTGCACTGGGGACTGGATGCTAGCCATCTCCAGGAGACAGGA 727  
TCAGTTTACGGAAACAACTCAGTTAGTATAGAGATGAGTCCGCTTCTGTAGTACTGAGCATTTCTGACTGATCAAAA 806  
AGGCCTAGTCTGTGACAGGGTTTGTATTTTATTTAGCCTCAGAGTATACCATACTACTAGGGAGTAACCTGTAGAGTGAG 885  
AAATTATAAACATTATTTAGGGATTACCATGGTGGAAAGGGATAAACATAGTCCCTGTGACTTCGTCTCTGTTCTCAA 964  
GGAAACCCCATTCACATGCCCCCTCCTAACTCCACAAGCGAGGTAGCAGAGGCTCTCCTCAGTCTGAACTAAGGCTTGG 1043  
CCTTGGGGAGGGCTCCTAGTGTGAGCTTGGAGCAGCACGGACAGCAGCATTTGTTATGGGAATGGAGAGAGGTCTGGG 1122  
CAGGATAGGAACCTTCTTGGAGACCCCCTTTGAAGAAAACCCAGGCAGCCCAAGGGAGCCAAACACACTAGATTTCTGTTCT 1201  
TCAGCAAAGCCCTGAAGAGACACTTAAGCTAAAAATTCCTTGTCTATATTTCTGAACTCCATTATAACATATGTAACT 1280  
CCTTTGTAACCAAATTTAGGTAAGCAGGCTTCTTGTCTGAAGGTTTGTAGTACCTGGCTGTATTTGTTGAGTATT 1359  
TTTAAATTTTGGATAGTCTCTTAGGCAACAATAATCACAATATATTATCCCTTCAGTTCTGGAGAAAAGCCTGATACC 1438  
AGGCACAGCCTACTGACCCCAAGGAGCCTGGCACTGATTGGCATCACATTGATCTAGAACTGGTCCAGCCGCCGAAGAG 1517  
TAGGAAAAGAGAAGGGCTGCTCAGGGAACATTGGCTGGGGCACGGAATAAGCACATAGTAAAAAGGGAACATCAGGG 1596  
TCAAATGGAAATCACCTGAGACAGGAAACAGGGAGTTTCATTTGGCCACACTGGAAAGAAAGGCAAGAGGAAGACAA 1675  
GTCTTGGAGTACCCCTGGCTGTTCTCCACACTCACAAGACATCAGCTATACTCTGCTTGGTGCATAGAAAGAGAAAAGA 1754  
GATGCCCTTTGTGTTTGTAGTAAGAATAATTAACCATTAAGGAAGACCATGTATAAACTGATGGAATAATAGTCACC 1833  
AAAGTACAGCACATACCAATTTGTGTCTAATAACAATGTAGCACAGTAATGACTGTACATGTTCATTGTATGTATACCAA 1912  
ACAAGATTGTTGTAAATCATATTTTATTATACAACACTAAGTTCTGCTTCTGCATTCTTAGGTTTCATCATTTTGGCT 1991  
CCTTAGCATGGCCACTTACAATTTTAAACATGAGATAACACATCAGGTGTCAGAACTTGCTTGAAGGGAATTACCAGA 2070  
AGTAATTTGTGTTTGTAGATGGGTGGAATTTGGAATTTATATTAGTACCGGTGGAGATACAAGTTCTCTGACTGTGTG 2149  
GGAAGGATAAGTGCTACCGTTGAGAAAGGGAAGAAAGGCTGAGTCTAGGTGGAGAAAATAATCAACAGAACTCTAGCCA 2228  
AAGCAAGCCCCAGAACTCAGACAAACAGAAAGGAAATCCTAATCCTTCTGTTTGTAGAAAGAGAACTGTAGTGTCTC 2307  
ACTTCCCTATTTCATGACAGAATAACTGCAAACTTTTAAGATCAGGAAATGTAGACATCTAGTGATTCTTTTAGTAGACA 2386

Fig. 11U

GTTAAATTTCCCCAAGATTAGGAGACACTTCTGTGCAGGTTCTAAAGAGGCCCAATGGCCTGGGTGGAGTGGGA 2465  
 GTAGATAGGGAATATGTGGGATTGGTTAAGTTTCATCATTTGGGAGAGTTCTCTGGATCCTTGCAAGCTTAGATAAATGT 2544  
 GATCTTTATTAGATAGCAGTGGCATGCTTTTAAAAAAGCAATGAAATTTAGCAAGCCACTGAAATTTGAGTTTT 2623  
 CACTTTGTTTCTAATATGCTGTGAATCAGTACAGTTTCTTACCCTTTCTTGGTCTTAATTTCTTACTGATAAAAT 2702  
 GGGTAGTAATACCTATCTCAAAAAATTATTGCACATATTAAATAACATTCCCTCTATGTATCTCAATGGCATTAGACAT 2781  
 TAGGAGAAGCAATTTGTGGAGGATTTGAAGTTGAGATCTTCATCCAAGAAAGTAGCTTTTCAATTTGCTAGAAGCTTAAT 2860  
 GTAGGCAAGCCACTTCATTTTCAGAACTTGTTCATCTATTATAATATGGGAATAAAAAATTTGTGCAAGTCAGAGAAG 2939  
 GGTGCCTTAAAAAATGTTGTGGCCAAGCCACATGAGATCAAGACACACTTTTCATGACCTCAAAATGTGGCCAGCCTA 3018  
 GGTCAAGCCAAACCCCATCCAAACCTTAGACTCACGAACAAATCCACCTGAGATCAGCAGAGCCACCCTAGATCAGCTGA 3097  
 AACTCTAAGCACAAAAATAAAAACTTATCACTGTAAAAAATAAAAAAAGTCTCTCGTATAGCAAAATCTAA 3176  
 CTGATGCAATCTCCATCTGGCCTTCATCCTTCTCCCTTATTGTCCTTTCGTGTATTGTTTCATCCAGCAACCAGGATGA 3255  
 TCTTGTTAAAAACATTAAACAGATTCTGTCAKCTTTMAAAAAAAGCCATGAAATTTAGCAAGCCACTGAATTT 3334  
 GAGTTTTCACCTTTGGTTTCTAATATGCTGTGAATCAGANCAGKTTTCTTACCCTTTCTTGGTCTTAAATTTCCCTTACT 3413  
 GATAAAATGGGTGTAATACCTATCTCAAAAAATATTGCACATATTARATAACATTCCTCTATGTATCTCAATGGCA 3492  
 TTAGACATTAGGAGAAGCAATTTGTGGAGGATTTGAAGTTGAGATCTTCATCCAGAAAGTAGCTTTTCAATTTGSTAGA 3571  
 AGCTTAATGTAGGCAAGCCACTTCATTTTTCAGAACTTGTTTACTCATTTATAATATGGGAATAAAAAATTTGTGCAAGT 3650  
 CAGAGAAGGTGCCTTAAAAATGTTGTGGCCAAGCCACATGAGATCAAGACACACACTTTTCATGACCTCAAATGTGGGC 3729  
 CCAGCCTAGGTCAAGCCAAACCCCATCCAAACCTTAGACTCACGAACAAATCCACCTGAGATCAGCAGAGCCACCCTAGA 3808  
 TCAGCTGAAACTCTAAGCACAAAAATAAAAACTTATCACTGTAAAAAATAAAAAAAGAAAGACACCTTGCCCCG 3887  
 GGCGGCGCGCCC 3898

Fig. 11V

|    |   |    |    |    |    |    |    |    |     |
|----|---|----|----|----|----|----|----|----|-----|
| 10 | 20  | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|    |   |    |    |    |    |    |    |    |     |
| M  | MNWHMIISGLIVVVKVVGMTFFLLYFPQVFGKNSDGFVPTESYGTTSVQNVSQIFGRNDESTMPTRSYGTVCPRNWDHFHQKCFSSFPWKDSMDY |    |    |    |    |    |    |    |     |
| R  | MNWHMIISGLIVVVKVVGMTFFLLYFPQVFGKNSDGFVPTESYGTTSVQNVSQIFGRNDESTMPTRSYGTVCPRNWDHFHQKCFSSFPWKDSMDY |    |    |    |    |    |    |    |     |
| H  | MNWHMIISGLIVVVKVVGMTFFLLYFPQVFGKNSDGFVPTESYGTTSVQNVSQIFGRNDESTMPTRSYGTVCPRNWDHFHQKCFSSFPWKDSMDY |    |    |    |    |    |    |    |     |
| A  | MNWHMIISGLIVVVKVVGMTFFLLYFPQVFGKNSDGFVPTESYGTTSVQNVSQIFGRNDESTMPTRSYGTVCPRNWDHFHQKCFSSFPWKDSMDY |    |    |    |    |    |    |    |     |
| C  | MNWHMIISGLIVVVKVVGMTFFLLYFPQVFGKNSDGFVPTESYGTTSVQNVSQIFGRNDESTMPTRSYGTVCPRNWDHFHQKCFSSFPWKDSMDY |    |    |    |    |    |    |    |     |
| E  | MNWHMIISGLIVVVKVVGMTFFLLYFPQVFGKNSDGFVPTESYGTTSVQNVSQIFGRNDESTMPTRSYGTVCPRNWDHFHQKCFSSFPWKDSMDY |    |    |    |    |    |    |    |     |
| B  | MNWHMIISGLIVVVKVVGMTFFLLYFPQVFGKNSDGFVPTESYGTTSVQNVSQIFGRNDESTMPTRSYGTVCPRNWDHFHQKCFSSFPWKDSMDY |    |    |    |    |    |    |    |     |
| D  | MNWHMIISGLIVVVKVVGMTFFLLYFPQVFGKNSDGFVPTESYGTTSVQNVSQIFGRNDESTMPTRSYGTVCPRNWDHFHQKCFSSFPWKDSMDY |    |    |    |    |    |    |    |     |
| F  | MNWHMIISGLIVVVKVVGMTFFLLYFPQVFGKNSDGFVPTESYGTTSVQNVSQIFGRNDESTMPTRSYGTVCPRNWDHFHQKCFSSFPWKDSMDY |    |    |    |    |    |    |    |     |

|     |  |     |     |     |     |     |     |
|-----|--|-----|-----|-----|-----|-----|-----|
| 110 | 120  | 130 | 140 | 150 | 160 | 170 | 180 |
|     |  |     |     |     |     |     |     |
| M   | CATQGSTLAIVNTPEKLYLQDIAGIENYFICLVQRQGEKKRWWINNSVFNGVNTNQDNQDFDCVTIGLTKTYDAASCEVS YRWICEMNAK  |     |     |     |     |     |     |
| R   | CATQGSTLAIVNTPEKLYLQDIAGIENYFICLVQRQGEKKRWWINNSVFNGVNTNQDNQDFDCVTIGLTKTYDAASCEVS YRWICEMNAK  |     |     |     |     |     |     |
| H   | CKGKGSTLAIVNTPEKL-FLQDITDAEKYFICLVQRQGEKKRWWINNSVFNGVNTNQDNQDFDCVTIGLTKTYDAASCEVS YRWICEMNAK |     |     |     |     |     |     |
| A   | CKGKGSTLAIVNTPEKLYLQDIAGIENYFICLVQRQGEKKRWWINNSVFNGVNTNQDNQDFDCVTIGLTKTYDAASCEVS YRWICEMNAK  |     |     |     |     |     |     |
| C   | CKGKGSTLAIVNTPEKLYLQDIAGIENYFICLVQRQGEKKRWWINNSVFNGVNTNQDNQDFDCVTIGLTKTYDAASCEVS YRWICEMNAK  |     |     |     |     |     |     |
| E   | CKGKGSTLAIVNTPEKLYLQDIAGIENYFICLVQRQGEKKRWWINNSVFNGVNTNQDNQDFDCVTIGLTKTYDAASCEVS YRWICEMNAK  |     |     |     |     |     |     |
| B   | CKGKGSTLAIVNTPEKLYLQDIAGIENYFICLVQRQGEKKRWWINNSVFNGVNTNQDNQDFDCVTIGLTKTYDAASCEVS YRWICEMNAK  |     |     |     |     |     |     |
| D   | CKGKGSTLAIVNTPEKLYLQDIAGIENYFICLVQRQGEKKRWWINNSVFNGVNTNQDNQDFDCVTIGLTKTYDAASCEVS YRWICEMNAK  |     |     |     |     |     |     |
| F   | CKGKGSTLAIVNTPEKLYLQDIAGIENYFICLVQRQGEKKRWWINNSVFNGVNTNQDNQDFDCVTIGLTKTYDAASCEVS YRWICEMNAK  |     |     |     |     |     |     |

Fig. 11W

# Figure 11X-1

|   |   |     |     |     |     |     |     |     |     |     |
|---|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|   | 10  | 20  | 30  | 40  | 50  | 60  | 70  | 80  | 90  | 100 |
| A | GTGGTCGGCCGAGGTGAGACTGTGAAGAAGAAAGAACGTTGCTTGGGCAAAAAGGAGCATATTCTCAGGAGACGGGGCCCCCTGCCTGCCACACCAAGCA    |     |     |     |     |     |     |     |     |     |
| B | GTGGTCGGCCGAGGTGAGACTGTGAAGAAGAAAGAACGTTGCTTGGGCAAAAAGGAGCATATTCTCAGGAGACGGGGCCCCCTGCCTGCCACACCAAGCA    |     |     |     |     |     |     |     |     |     |
| C | GAGACTGTGAAGAAGGAAG-----AACGTTGCTTGGGCAAAAAGGAGCATATTCTCAGGAGACGGGGCCCCCTGCCTGCCACACCAAGCA              |     |     |     |     |     |     |     |     |     |
| D | GAGACTGTGAAGAAGGAAG-----AACGTTGCTTGGGCAAAAAGGAGCATATTCTCAGGAGACGGGGCCCCCTGCCTGCCACACCAAGCA              |     |     |     |     |     |     |     |     |     |
| E | GAGACTGTGAAGAAGGAAG-----AACGTTGCTTGGGCAAAAAGGAGCATATTCTCAGGAGACGGGGCCCCCTGCCTGCCACACCAAGCA              |     |     |     |     |     |     |     |     |     |
| F | GAGACTGTGAAGAAGGAAG-----AACGTTGCTTGGGCAAAAAGGAGCATATTCTCAGGAGACGGGGCCCCCTGCCTGCCACACCAAGCA              |     |     |     |     |     |     |     |     |     |
|   | 110   | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 |
| A | TTAGGCCACCAGGAAGACCCCCCATCTGCAAGCAAGCCTAGCCTTCCAGGGAGAAAAGAGGCCCTTCCAGCTCCTTCATCATGAACCTGGCACATGATCATCT |     |     |     |     |     |     |     |     |     |
| B | TTAGGCCACCAGGAAGACCCCCCATCTGCAAGCAAGCCTAGCCTTCCAGGGAGAAAAGAGGCCCTTCCAGCTCCTTCATCATGAACCTGGCACATGATCATCT |     |     |     |     |     |     |     |     |     |
| C | TTAGGCCACCAGGAAGACCCCCCATCTGCAAGCAAGCCTAGCCTTCCAGGGAGAAAAGAGGCCCTTCCAGCTCCTTCATCATGAACCTGGCACATGATCATCT |     |     |     |     |     |     |     |     |     |
| D | TTAGGCCACCAGGAAGACCCCCCATCTGCAAGCAAGCCTAGCCTTCCAGGGAGAAAAGAGGCCCTTCCAGCTCCTTCATCATGAACCTGGCACATGATCATCT |     |     |     |     |     |     |     |     |     |
| E | TTAGGCCACCAGGAAGACCCCCCATCTGCAAGCAAGCCTAGCCTTCCAGGGAGAAAAGAGGCCCTTCCAGCTCCTTCATCATGAACCTGGCACATGATCATCT |     |     |     |     |     |     |     |     |     |
| F | TTAGGCCACCAGGAAGACCCCCCATCTGCAAGCAAGCCTAGCCTTCCAGGGAGAAAAGAGGCCCTTCCAGCTCCTTCATCATGAACCTGGCACATGATCATCT |     |     |     |     |     |     |     |     |     |
|   | 210   | 220 | 230 | 240 | 250 | 260 | 270 | 280 | 290 | 300 |
| A | CTGGGCTTATTGTGGTAGTGCTTAAAGTTGTTGGAATGACCTTATTCTACTTTATTTCCACAGATTTTAAACAAAAGTAACGATGGTTTCACCCACCAC     |     |     |     |     |     |     |     |     |     |
| B | CTGGGCTTATTGTGGTAGTGCTTAAAGTTGTTGGAATGACCTTATTCTACTTTATTTCCACAGATTTTAAACAAAAGTAACGATGGTTTCACCCACCAC     |     |     |     |     |     |     |     |     |     |
| C | CTGGGCTTATTGTGGTAGTGCTTAAAGTTGTTGGAATGACCTTATTCTACTTTATTTCCACAGATTTTAAACAAAAGTAACGATGGTTTCACCCACCAC     |     |     |     |     |     |     |     |     |     |
| D | CTGGGCTTATTGTGGTAGTGCTTAAAGTTGTTGGAATGACCTTATTCTACTTTATTTCCACAGATTTTAAACAAAAGTAACGATGGTTTCACCCACCAC     |     |     |     |     |     |     |     |     |     |
| E | CTGGGCTTATTGTGGTAGTGCTTAAAGTTGTTGGAATGACCTTATTCTACTTTATT-----   |     |     |     |     |     |     |     |     |     |
| F | CTGGGCTTATTGTGGTAGTGCTTAAAGTTGTTGGAATGACCTTATTCTACTTTATT-----   |     |     |     |     |     |     |     |     |     |

Fig. 11X-1

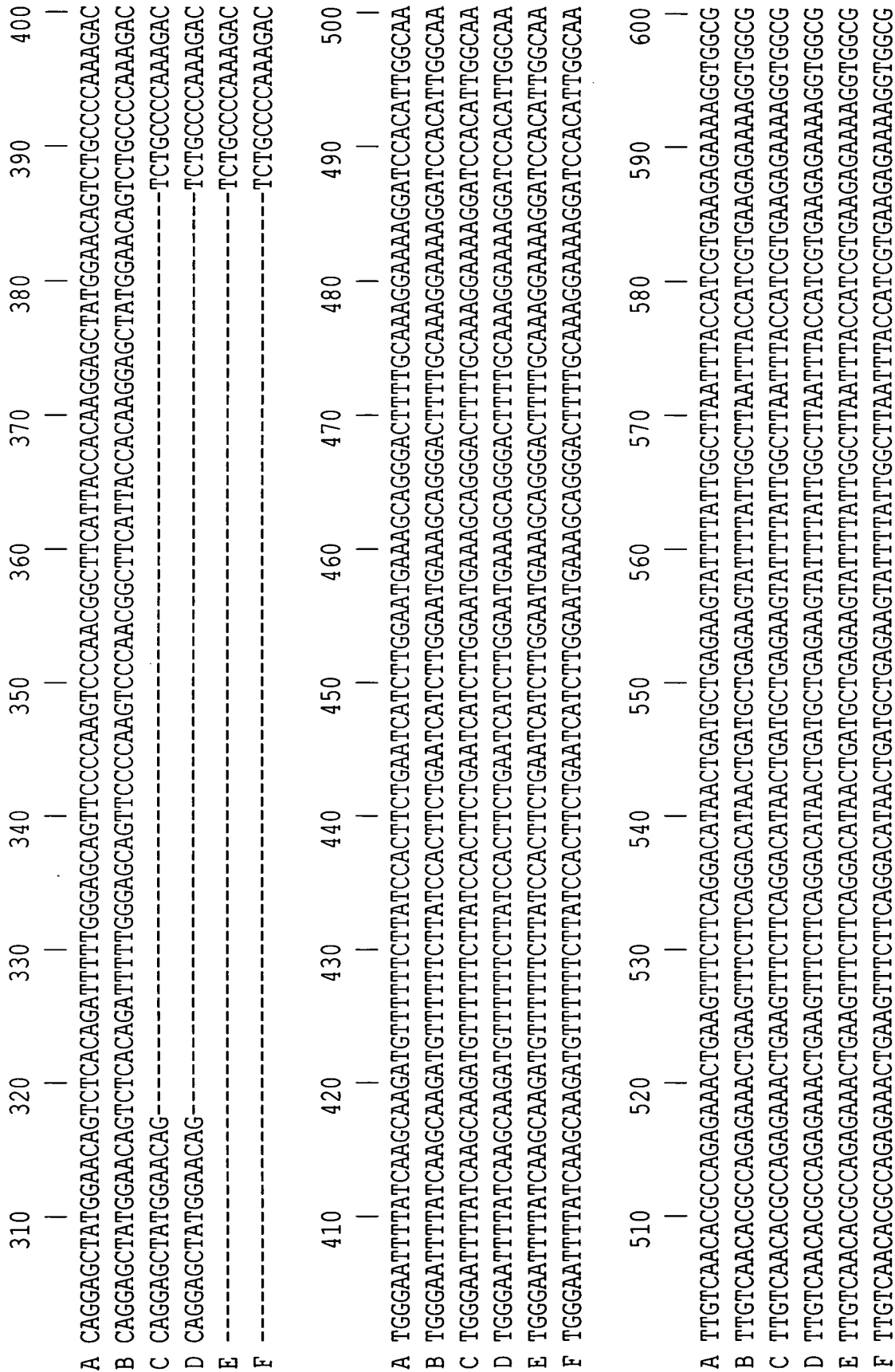


Fig. 11X-2

Figure 11X-3

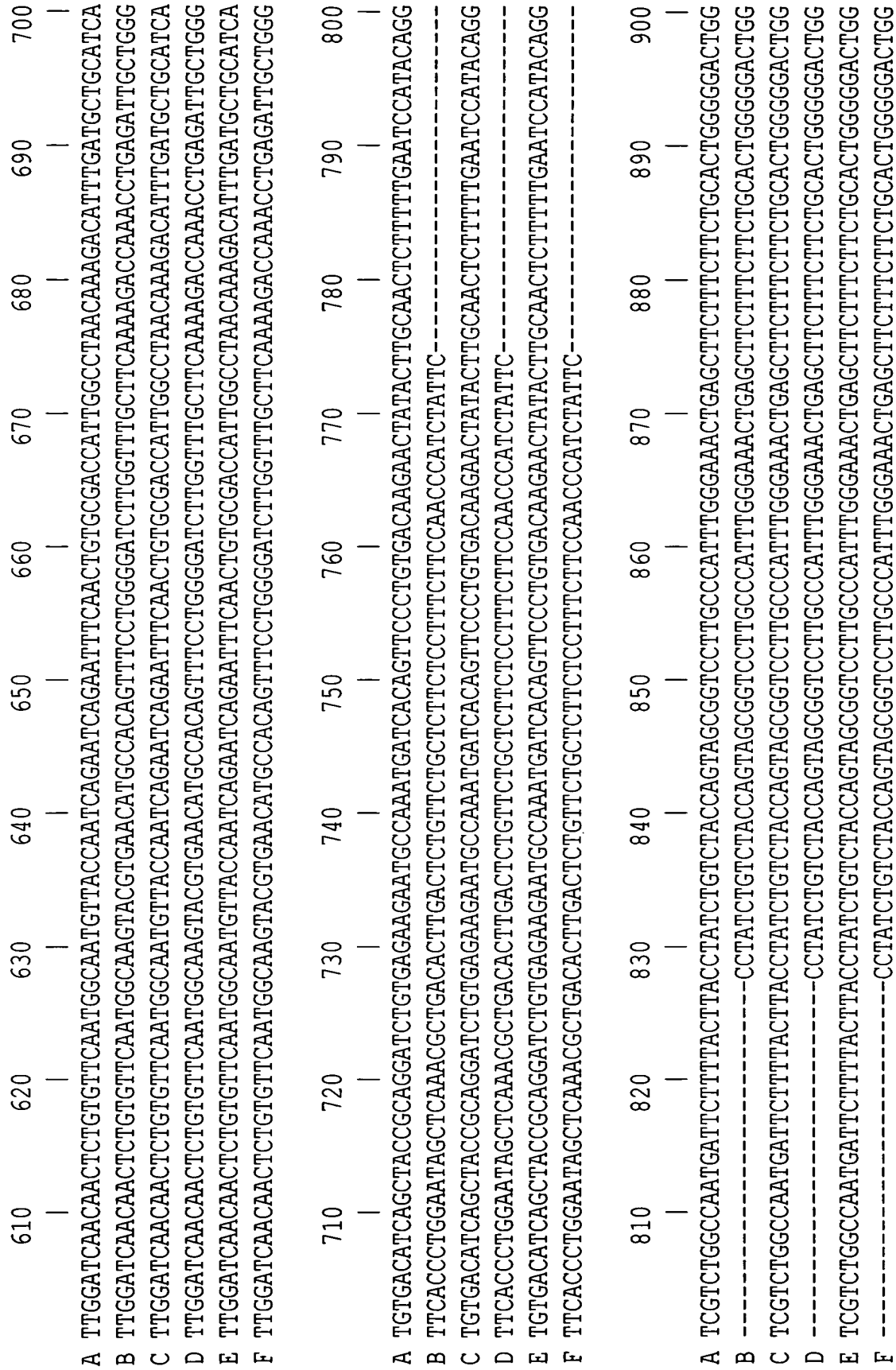


Fig. 11X-3



Figure 11X-4

|      |   |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |
|------|---|------|--|------|--|------|--|------|--|------|--|------|--|------|--|------|--|------|
| 910  |   | 920  |  | 930  |  | 940  |  | 950  |  | 960  |  | 970  |  | 980  |  | 990  |  | 1000 |
| A    | ATGCTAGCCATCTCCAGGAGACAGGATCAGTTTACGGAAACAACCTCAGTTAGTATAGAGATGAGGTCCGCTTCTGTAGTACTGAGCATTTCTGACTGAT    |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |
| B    | ATGCTAGCCATCTCCAGGAGACAGGATCAGTTTACGGAAACAACCTCAGTTAGTATAGAGATGAGGTCCGCTTCTGTAGTACTGAGCATTTCTGACTGAT    |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |
| C    | ATGCTAGCCATCTCCAGGAGACAGGATCAGTTTACGGAAACAACCTCAGTTAGTATAGAGATGAGGTCCGCTTCTGTAGTACTGAGCATTTCTGACTGAT    |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |
| D    | ATGCTAGCCATCTCCAGGAGACAGGATCAGTTTACGGAAACAACCTCAGTTAGTATAGAGATGAGGTCCGCTTCTGTAGTACTGAGCATTTCTGACTGAT    |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |
| E    | ATGCTAGCCATCTCCAGGAGACAGGATCAGTTTACGGAAACAACCTCAGTTAGTATAGAGATGAGGTCCGCTTCTGTAGTACTGAGCATTTCTGACTGAT    |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |
| F    | ATGCTAGCCATCTCCAGGAGACAGGATCAGTTTACGGAAACAACCTCAGTTAGTATAGAGATGAGGTCCGCTTCTGTAGTACTGAGCATTTCTGACTGAT    |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |
| 1010 |   | 1020 |  | 1030 |  | 1040 |  | 1050 |  | 1060 |  | 1070 |  | 1080 |  | 1090 |  | 1100 |
| A    | CAAAAAGCCCTAGTCTGTGACAGGGTTTGTATTTAGCCTCAGAGTATACCATACTACTAGGGAGTAACCTGTAGAGTGAGAAATTATAAACATTAT        |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |
| B    | CAAAAAGCCCTAGTCTGTGACAGGGTTTGTATTTAGCCTCAGAGTATACCATACTACTAGGGAGTAACCTGTAGAGTGAGAAATTATAAACATTAT        |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |
| C    | CAAAAAGCCCTAGTCTGTGACAGGGTTTGTATTTAGCCTCAGAGTATACCATACTACTAGGGAGTAACCTGTAGAGTGAGAAATTATAAACATTAT        |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |
| D    | CAAAAAGCCCTAGTCTGTGACAGGGTTTGTATTTAGCCTCAGAGTATACCATACTACTAGGGAGTAACCTGTAGAGTGAGAAATTATAAACATTAT        |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |
| E    | CAAAAAGCCCTAGTCTGTGACAGGGTTTGTATTTAGCCTCAGAGTATACCATACTACTAGGGAGTAACCTGTAGAGTGAGAAATTATAAACATTAT        |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |
| F    | CAAAAAGCCCTAGTCTGTGACAGGGTTTGTATTTAGCCTCAGAGTATACCATACTACTAGGGAGTAACCTGTAGAGTGAGAAATTATAAACATTAT        |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |
| 1110 |   | 1120 |  | 1130 |  | 1140 |  | 1150 |  | 1160 |  | 1170 |  | 1180 |  | 1190 |  | 1200 |
| A    | TTAGGGATTACCATGGTGGAAAGAGGGATAAAACATAGGTCCTGTGACTTCGTCTCTGTTCTCAAGGGAACCCCATTCACATGCCCCCTCCTAACTCCACAAG |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |
| B    | TTAGGGATTACCATGGTGGAAAGAGGGATAAAACATAGGTCCTGTGACTTCGTCTCTGTTCTCAAGGGAACCCCATTCACATGCCCCCTCCTAACTCCACAAG |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |
| C    | TTAGGGATTACCATGGTGGAAAGAGGGATAAAACATAGGTCCTGTGACTTCGTCTCTGTTCTCAAGGGAACCCCATTCACATGCCCCCTCCTAACTCCACAAG |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |
| D    | TTAGGGATTACCATGGTGGAAAGAGGGATAAAACATAGGTCCTGTGACTTCGTCTCTGTTCTCAAGGGAACCCCATTCACATGCCCCCTCCTAACTCCACAAG |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |
| E    | TTAGGGATTACCATGGTGGAAAGAGGGATAAAACATAGGTCCTGTGACTTCGTCTCTGTTCTCAAGGGAACCCCATTCACATGCCCCCTCCTAACTCCACAAG |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |
| F    | TTAGGGATTACCATGGTGGAAAGAGGGATAAAACATAGGTCCTGTGACTTCGTCTCTGTTCTCAAGGGAACCCCATTCACATGCCCCCTCCTAACTCCACAAG |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |  |      |

Fig. 11X-4

Figure 11X-5

|      |   |      |      |      |      |      |      |      |      |
|------|---|------|------|------|------|------|------|------|------|
| 1210 | 1220  | 1230 | 1240 | 1250 | 1260 | 1270 | 1280 | 1290 | 1300 |
| A    | CGAGGGTAGCAGAGGCTCTCCTCAGTCTGAACCTAAGGCTTGGCCTTGGGAGGGCTCCTAGTGTGAGCTTGGAGCAGCACGGACAGCAGCATTGTTTAT   |      |      |      |      |      |      |      |      |
| B    | CGAGGGTAGCAGAGGCTCTCCTCAGTCTGAACCTAAGGCTTGGCCTTGGGAGGGCTCCTAGTGTGAGCTTGGAGCAGCACGGACAGCAGCATTGTTTAT   |      |      |      |      |      |      |      |      |
| C    | CGAGGGTAGCAGAGGCTCTCCTCAGTCTGAACCTAAGGCTTGGCCTTGGGAGGGCTCCTAGTGTGAGCTTGGAGCAGCACGGACAGCAGCATTGTTTAT   |      |      |      |      |      |      |      |      |
| D    | CGAGGGTAGCAGAGGCTCTCCTCAGTCTGAACCTAAGGCTTGGCCTTGGGAGGGCTCCTAGTGTGAGCTTGGAGCAGCACGGACAGCAGCATTGTTTAT   |      |      |      |      |      |      |      |      |
| E    | CGAGGGTAGCAGAGGCTCTCCTCAGTCTGAACCTAAGGCTTGGCCTTGGGAGGGCTCCTAGTGTGAGCTTGGAGCAGCACGGACAGCAGCATTGTTTAT   |      |      |      |      |      |      |      |      |
| F    | CGAGGGTAGCAGAGGCTCTCCTCAGTCTGAACCTAAGGCTTGGCCTTGGGAGGGCTCCTAGTGTGAGCTTGGAGCAGCACGGACAGCAGCATTGTTTAT   |      |      |      |      |      |      |      |      |
| 1310 | 1320  | 1330 | 1340 | 1350 | 1360 | 1370 | 1380 | 1390 | 1400 |
| A    | GGGAATGGAGAGAGGCTCTGGGCAGGATAGGAACCTTCTTGGAGACCCCTTTGAAGAAACCAGGCAGCCCAAGGGAGCCAAACACACTAGATTCTGTCTCT |      |      |      |      |      |      |      |      |
| B    | GGGAATGGAGAGAGGCTCTGGGCAGGATAGGAACCTTCTTGGAGACCCCTTTGAAGAAACCAGGCAGCCCAAGGGAGCCAAACACACTAGATTCTGTCTCT |      |      |      |      |      |      |      |      |
| C    | GGGAATGGAGAGAGGCTCTGGGCAGGATAGGAACCTTCTTGGAGACCCCTTTGAAGAAACCAGGCAGCCCAAGGGAGCCAAACACACTAGATTCTGTCTCT |      |      |      |      |      |      |      |      |
| D    | GGGAATGGAGAGAGGCTCTGGGCAGGATAGGAACCTTCTTGGAGACCCCTTTGAAGAAACCAGGCAGCCCAAGGGAGCCAAACACACTAGATTCTGTCTCT |      |      |      |      |      |      |      |      |
| E    | GGGAATGGAGAGAGGCTCTGGGCAGGATAGGAACCTTCTTGGAGACCCCTTTGAAGAAACCAGGCAGCCCAAGGGAGCCAAACACACTAGATTCTGTCTCT |      |      |      |      |      |      |      |      |
| F    | GGGAATGGAGAGAGGCTCTGGGCAGGATAGGAACCTTCTTGGAGACCCCTTTGAAGAAACCAGGCAGCCCAAGGGAGCCAAACACACTAGATTCTGTCTCT |      |      |      |      |      |      |      |      |
| 1410 | 1420  | 1430 | 1440 | 1450 | 1460 | 1470 | 1480 | 1490 | 1500 |
| A    | TCAGCAAAGCCCTGAAGAGACACTTAAGCTAAAAATTCCTTGTGCATATTCTGAAACTCCATTATAACATATGTAACTCCTTTGTAAACCAAAATTTAGG  |      |      |      |      |      |      |      |      |
| B    | TCAGCAAAGCCCTGAAGAGACACTTAAGCTAAAAATTCCTTGTGCATATTCTGAAACTCCATTATAACATATGTAACTCCTTTGTAAACCAAAATTTAGG  |      |      |      |      |      |      |      |      |
| C    | TCAGCAAAGCCCTGAAGAGACACTTAAGCTAAAAATTCCTTGTGCATATTCTGAAACTCCATTATAACATATGTAACTCCTTTGTAAACCAAAATTTAGG  |      |      |      |      |      |      |      |      |
| D    | TCAGCAAAGCCCTGAAGAGACACTTAAGCTAAAAATTCCTTGTGCATATTCTGAAACTCCATTATAACATATGTAACTCCTTTGTAAACCAAAATTTAGG  |      |      |      |      |      |      |      |      |
| E    | TCAGCAAAGCCCTGAAGAGACACTTAAGCTAAAAATTCCTTGTGCATATTCTGAAACTCCATTATAACATATGTAACTCCTTTGTAAACCAAAATTTAGG  |      |      |      |      |      |      |      |      |
| F    | TCAGCAAAGCCCTGAAGAGACACTTAAGCTAAAAATTCCTTGTGCATATTCTGAAACTCCATTATAACATATGTAACTCCTTTGTAAACCAAAATTTAGG  |      |      |      |      |      |      |      |      |

Fig. 11X-5

|      |                                   |  |                                 |      |      |      |      |      |      |
|------|-----------------------------------|--|---------------------------------|------|------|------|------|------|------|
| 1810 | 1820                              | 1830   | 1840                            | 1850 | 1860 | 1870 | 1880 | 1890 | 1900 |
|      |                                   |  |                                 |      |      |      |      |      |      |
| A    | TGGAATCACCTGAGACAGGAAACAGGGAGTTCA | TTGGCCACACTGGAAGAAAGGCAAGAAAGAGGAAAGACAAGTCT   | TGGAGTACCCCTGGCTGTTCTCC         |      |      |      |      |      |      |
| B    | TGGAATCACCTGAGACAGGAAACAGGGAGTTCA | TTGGCCACACTGGAAGAAAGGCAAGAAAGAGGAAAGACAAGTCT   | TGGAGTACCCCTGGCTGTTCTCC         |      |      |      |      |      |      |
| C    | TGGAATCACCTGAGACAGGAAACAGGGAGTTCA | TTGGCCACACTGGAAGAAAGGCAAGAAAGAGGAAAGACAAGTCT   | TGGAGTACCCCTGGCTGTTCTCC         |      |      |      |      |      |      |
| D    | TGGAATCACCTGAGACAGGAAACAGGGAGTTCA | TTGGCCACACTGGAAGAAAGGCAAGAAAGAGGAAAGACAAGTCT   | TGGAGTACCCCTGGCTGTTCTCC         |      |      |      |      |      |      |
| E    | TGGAATCACCTGAGACAGGAAACAGGGAGTTCA | TTGGCCACACTGGAAGAAAGGCAAGAAAGAGGAAAGACAAGTCT   | TGGAGTACCCCTGGCTGTTCTCC         |      |      |      |      |      |      |
| F    | TGGAATCACCTGAGACAGGAAACAGGGAGTTCA | TTGGCCACACTGGAAGAAAGGCAAGAAAGAGGAAAGACAAGTCT   | TGGAGTACCCCTGGCTGTTCTCC         |      |      |      |      |      |      |
| 1910 | 1920                              | 1930   | 1940                            | 1950 | 1960 | 1970 | 1980 | 1990 | 2000 |
|      |                                   |  |                                 |      |      |      |      |      |      |
| A    | ACACTCACAAGACATCAGCTATAC          | CTGCTTGGTGCATAAGAAAGAGAAAAGAGATGCCCTTTTGTGTTT  | TGAGTAAGAATAATTAAACCATAAGGAAGAC |      |      |      |      |      |      |
| B    | ACACTCACAAGACATCAGCTATAC          | CTGCTTGGTGCATAAGAAAGAGAAAAGAGATGCCCTTTTGTGTTT  | TGAGTAAGAATAATTAAACCATAAGGAAGAC |      |      |      |      |      |      |
| C    | ACACTCACAAGACATCAGCTATAC          | CTGCTTGGTGCATAAGAAAGAGAAAAGAGATGCCCTTTTGTGTTT  | TGAGTAAGAATAATTAAACCATAAGGAAGAC |      |      |      |      |      |      |
| D    | ACACTCACAAGACATCAGCTATAC          | CTGCTTGGTGCATAAGAAAGAGAAAAGAGATGCCCTTTTGTGTTT  | TGAGTAAGAATAATTAAACCATAAGGAAGAC |      |      |      |      |      |      |
| E    | ACACTCACAAGACATCAGCTATAC          | CTGCTTGGTGCATAAGAAAGAGAAAAGAGATGCCCTTTTGTGTTT  | TGAGTAAGAATAATTAAACCATAAGGAAGAC |      |      |      |      |      |      |
| F    | ACACTCACAAGACATCAGCTATAC          | CTGCTTGGTGCATAAGAAAGAGAAAAGAGATGCCCTTTTGTGTTT  | TGAGTAAGAATAATTAAACCATAAGGAAGAC |      |      |      |      |      |      |
| 2010 | 2020                              | 2030   | 2040                            | 2050 | 2060 | 2070 | 2080 | 2090 | 2100 |
|      |                                   |  |                                 |      |      |      |      |      |      |
| A    | CATGTATAAAACTGATGGAATAA           | TAGTCACCAAAGTACAGCACATACCATTTTGTGTCATAATAACAAT | GTAGCACAGTAATGACTGTACATGTCATTGT |      |      |      |      |      |      |
| B    | CATGTATAAAACTGATGGAATAA           | TAGTCACCAAAGTACAGCACATACCATTTTGTGTCATAATAACAAT | GTAGCACAGTAATGACTGTACATGTCATTGT |      |      |      |      |      |      |
| C    | CATGTATAAAACTGATGGAATAA           | TAGTCACCAAAGTACAGCACATACCATTTTGTGTCATAATAACAAT | GTAGCACAGTAATGACTGTACATGTCATTGT |      |      |      |      |      |      |
| D    | CATGTATAAAACTGATGGAATAA           | TAGTCACCAAAGTACAGCACATACCATTTTGTGTCATAATAACAAT | GTAGCACAGTAATGACTGTACATGTCATTGT |      |      |      |      |      |      |
| E    | CATGTATAAAACTGATGGAATAA           | TAGTCACCAAAGTACAGCACATACCATTTTGTGTCATAATAACAAT | GTAGCACAGTAATGACTGTACATGTCATTGT |      |      |      |      |      |      |
| F    | CATGTATAAAACTGATGGAATAA           | TAGTCACCAAAGTACAGCACATACCATTTTGTGTCATAATAACAAT | GTAGCACAGTAATGACTGTACATGTCATTGT |      |      |      |      |      |      |

Fig. 11X-7

# REF ID: A63460

|   |   |      |      |      |      |      |      |      |      |      |
|---|---|------|------|------|------|------|------|------|------|------|
|   | 1510  | 1520 | 1530 | 1540 | 1550 | 1560 | 1570 | 1580 | 1590 | 1600 |
|   |   |      |      |      |      |      |      |      |      |      |
| A | TAAGCAGGCTTCCTTTGCTCTGAAGGTTTGGAGTACCTGGCTGTATTTGTTGAGTATTTTAAATTTTGGATAGTCTCTTAGGCAACAATAATCACAAAT |      |      |      |      |      |      |      |      |      |
| B | TAAGCAGGCTTCCTTTGCTCTGAAGGTTTGGAGTACCTGGCTGTATTTGTTGAGTATTTTAAATTTTGGATAGTCTCTTAGGCAACAATAATCACAAAT |      |      |      |      |      |      |      |      |      |
| C | TAAGCAGGCTTCCTTTGCTCTGAAGGTTTGGAGTACCTGGCTGTATTTGTTGAGTATTTTAAATTTTGGATAGTCTCTTAGGCAACAATAATCACAAAT |      |      |      |      |      |      |      |      |      |
| D | TAAGCAGGCTTCCTTTGCTCTGAAGGTTTGGAGTACCTGGCTGTATTTGTTGAGTATTTTAAATTTTGGATAGTCTCTTAGGCAACAATAATCACAAAT |      |      |      |      |      |      |      |      |      |
| E | TAAGCAGGCTTCCTTTGCTCTGAAGGTTTGGAGTACCTGGCTGTATTTGTTGAGTATTTTAAATTTTGGATAGTCTCTTAGGCAACAATAATCACAAAT |      |      |      |      |      |      |      |      |      |
| F | TAAGCAGGCTTCCTTTGCTCTGAAGGTTTGGAGTACCTGGCTGTATTTGTTGAGTATTTTAAATTTTGGATAGTCTCTTAGGCAACAATAATCACAAAT |      |      |      |      |      |      |      |      |      |
|   | 1610  | 1620 | 1630 | 1640 | 1650 | 1660 | 1670 | 1680 | 1690 | 1700 |
|   |   |      |      |      |      |      |      |      |      |      |
| A | ATATTATCCCTTCAGTTCTGGAGAAAGCCTGATACCAGGCACAGCCTACTGACCCCAAGGAGCCTGGCACTGATTGGCATCACATTGATCTAGAACTGG |      |      |      |      |      |      |      |      |      |
| B | ATATTATCCCTTCAGTTCTGGAGAAAGCCTGATACCAGGCACAGCCTACTGACCCCAAGGAGCCTGGCACTGATTGGCATCACATTGATCTAGAACTGG |      |      |      |      |      |      |      |      |      |
| C | ATATTATCCCTTCAGTTCTGGAGAAAGCCTGATACCAGGCACAGCCTACTGACCCCAAGGAGCCTGGCACTGATTGGCATCACATTGATCTAGAACTGG |      |      |      |      |      |      |      |      |      |
| D | ATATTATCCCTTCAGTTCTGGAGAAAGCCTGATACCAGGCACAGCCTACTGACCCCAAGGAGCCTGGCACTGATTGGCATCACATTGATCTAGAACTGG |      |      |      |      |      |      |      |      |      |
| E | ATATTATCCCTTCAGTTCTGGAGAAAGCCTGATACCAGGCACAGCCTACTGACCCCAAGGAGCCTGGCACTGATTGGCATCACATTGATCTAGAACTGG |      |      |      |      |      |      |      |      |      |
| F | ATATTATCCCTTCAGTTCTGGAGAAAGCCTGATACCAGGCACAGCCTACTGACCCCAAGGAGCCTGGCACTGATTGGCATCACATTGATCTAGAACTGG |      |      |      |      |      |      |      |      |      |
|   | 1710  | 1720 | 1730 | 1740 | 1750 | 1760 | 1770 | 1780 | 1790 | 1800 |
|   |   |      |      |      |      |      |      |      |      |      |
| A | TCCAGCCGCCGAAGTAGGAAAAAGAGAGGGCTGCTCAGGGAAACATTGGCTGGGGGCACGGAAATAAGCACATAGTAAAAAGGGAACATCAGGGTCAAA |      |      |      |      |      |      |      |      |      |
| B | TCCAGCCGCCGAAGTAGGAAAAAGAGAGGGCTGCTCAGGGAAACATTGGCTGGGGGCACGGAAATAAGCACATAGTAAAAAGGGAACATCAGGGTCAAA |      |      |      |      |      |      |      |      |      |
| C | TCCAGCCGCCGAAGTAGGAAAAAGAGAGGGCTGCTCAGGGAAACATTGGCTGGGGGCACGGAAATAAGCACATAGTAAAAAGGGAACATCAGGGTCAAA |      |      |      |      |      |      |      |      |      |
| D | TCCAGCCGCCGAAGTAGGAAAAAGAGAGGGCTGCTCAGGGAAACATTGGCTGGGGGCACGGAAATAAGCACATAGTAAAAAGGGAACATCAGGGTCAAA |      |      |      |      |      |      |      |      |      |
| E | TCCAGCCGCCGAAGTAGGAAAAAGAGAGGGCTGCTCAGGGAAACATTGGCTGGGGGCACGGAAATAAGCACATAGTAAAAAGGGAACATCAGGGTCAAA |      |      |      |      |      |      |      |      |      |
| F | TCCAGCCGCCGAAGTAGGAAAAAGAGAGGGCTGCTCAGGGAAACATTGGCTGGGGGCACGGAAATAAGCACATAGTAAAAAGGGAACATCAGGGTCAAA |      |      |      |      |      |      |      |      |      |

Fig. 11X-6

Figure 11X-8

|      |                          |                         |                        |                        |              |      |      |      |      |
|------|--------------------------|-------------------------|------------------------|------------------------|--------------|------|------|------|------|
| 2110 | 2120                     | 2130                    | 2140                   | 2150                   | 2160         | 2170 | 2180 | 2190 | 2200 |
|      |                          |                         |                        |                        |              |      |      |      |      |
| A    | ATGTATACCAACAAGATTGTTGTA | ATAATCATATTTTTTATTACAAC | ACTAAGTTCGCTTCTGCATTCC | TAGTTCCTATCATTTTTTGGCT | CCTTAGCATG   |      |      |      |      |
| B    | ATGTATACCAACAAGATTGTTGTA | ATAATCATATTTTTTATTACAAC | ACTAAGTTCGCTTCTGCATTCC | TAGTTCCTATCATTTTTTGGCT | CCTTAGCATG   |      |      |      |      |
| C    | ATGTATACCAACAAGATTGTTGTA | ATAATCATATTTTTTATTACAAC | ACTAAGTTCGCTTCTGCATTCC | TAGTTCCTATCATTTTTTGGCT | CCTTAGCATG   |      |      |      |      |
| D    | ATGTATACCAACAAGATTGTTGTA | ATAATCATATTTTTTATTACAAC | ACTAAGTTCGCTTCTGCATTCC | TAGTTCCTATCATTTTTTGGCT | CCTTAGCATG   |      |      |      |      |
| E    | ATGTATACCAACAAGATTGTTGTA | ATAATCATATTTTTTATTACAAC | ACTAAGTTCGCTTCTGCATTCC | TAGTTCCTATCATTTTTTGGCT | CCTTAGCATG   |      |      |      |      |
| F    | ATGTATACCAACAAGATTGTTGTA | ATAATCATATTTTTTATTACAAC | ACTAAGTTCGCTTCTGCATTCC | TAGTTCCTATCATTTTTTGGCT | CCTTAGCATG   |      |      |      |      |
| 2210 | 2220                     | 2230                    | 2240                   | 2250                   | 2260         | 2270 | 2280 | 2290 | 2300 |
|      |                          |                         |                        |                        |              |      |      |      |      |
| A    | GCCACTTACAATTTTTTAACATG  | AGATACACATCAGGTGTCAGAA  | CTTGCTTGAAGGGAATTACCAG | AAGTAATTTGTGTTTTGAGAT  | GGGGTGGAATTT |      |      |      |      |
| B    | GCCACTTACAATTTTTTAACATG  | AGATACACATCAGGTGTCAGAA  | CTTGCTTGAAGGGAATTACCAG | AAGTAATTTGTGTTTTGAGAT  | GGGGTGGAATTT |      |      |      |      |
| C    | GCCACTTACAATTTTTTAACATG  | AGATACACATCAGGTGTCAGAA  | CTTGCTTGAAGGGAATTACCAG | AAGTAATTTGTGTTTTGAGAT  | GGGGTGGAATTT |      |      |      |      |
| D    | GCCACTTACAATTTTTTAACATG  | AGATACACATCAGGTGTCAGAA  | CTTGCTTGAAGGGAATTACCAG | AAGTAATTTGTGTTTTGAGAT  | GGGGTGGAATTT |      |      |      |      |
| E    | GCCACTTACAATTTTTTAACATG  | AGATACACATCAGGTGTCAGAA  | CTTGCTTGAAGGGAATTACCAG | AAGTAATTTGTGTTTTGAGAT  | GGGGTGGAATTT |      |      |      |      |
| F    | GCCACTTACAATTTTTTAACATG  | AGATACACATCAGGTGTCAGAA  | CTTGCTTGAAGGGAATTACCAG | AAGTAATTTGTGTTTTGAGAT  | GGGGTGGAATTT |      |      |      |      |
| 2310 | 2320                     | 2330                    | 2340                   | 2350                   | 2360         | 2370 | 2380 | 2390 | 2400 |
|      |                          |                         |                        |                        |              |      |      |      |      |
| A    | GGAATTATATTAGTAGCCGGTGG  | AGATACAAGTTCCTGACTGTGT  | TGGAAAGGATAAGTGTACCG   | TGAGAAAGGAAGAAAGGCT    | GAGTCTAGGTGG |      |      |      |      |
| B    | GGAATTATATTAGTAGCCGGTGG  | AGATACAAGTTCCTGACTGTGT  | TGGAAAGGATAAGTGTACCG   | TGAGAAAGGAAGAAAGGCT    | GAGTCTAGGTGG |      |      |      |      |
| C    | GGAATTATATTAGTAGCCGGTGG  | AGATACAAGTTCCTGACTGTGT  | TGGAAAGGATAAGTGTACCG   | TGAGAAAGGAAGAAAGGCT    | GAGTCTAGGTGG |      |      |      |      |
| D    | GGAATTATATTAGTAGCCGGTGG  | AGATACAAGTTCCTGACTGTGT  | TGGAAAGGATAAGTGTACCG   | TGAGAAAGGAAGAAAGGCT    | GAGTCTAGGTGG |      |      |      |      |
| E    | GGAATTATATTAGTAGCCGGTGG  | AGATACAAGTTCCTGACTGTGT  | TGGAAAGGATAAGTGTACCG   | TGAGAAAGGAAGAAAGGCT    | GAGTCTAGGTGG |      |      |      |      |
| F    | GGAATTATATTAGTAGCCGGTGG  | AGATACAAGTTCCTGACTGTGT  | TGGAAAGGATAAGTGTACCG   | TGAGAAAGGAAGAAAGGCT    | GAGTCTAGGTGG |      |      |      |      |

Fig. 11X-8

# Figure 11X-9

|   |  |      |      |      |      |      |      |      |      |      |  |
|---|--|------|------|------|------|------|------|------|------|------|--|
|   | 2410   | 2420 | 2430 | 2440 | 2450 | 2460 | 2470 | 2480 | 2490 | 2500 |  |
| A | AGAAAAATATCAACAGAACTCTAGCCAAAGGCAAGCCCAAGAACTCAGACAACAGAAAGGAAATCCTAATCCTTCTGTTTTGAGAAAGAGAGAACTGTAGT  |      |      |      |      |      |      |      |      |      |  |
| B | AGAAAAATATCAACAGAACTCTAGCCAAAGGCAAGCCCAAGAACTCAGACAACAGAAAGGAAATCCTAATCCTTCTGTTTTGAGAAAGAGAGAACTGTAGT  |      |      |      |      |      |      |      |      |      |  |
| C | AGAAAAATATCAACAGAACTCTAGCCAAAGGCAAGCCCAAGAACTCAGACAACAGAAAGGAAATCCTAATCCTTCTGTTTTGAGAAAGAGAGAACTGTAGT  |      |      |      |      |      |      |      |      |      |  |
| D | AGAAAAATATCAACAGAACTCTAGCCAAAGGCAAGCCCAAGAACTCAGACAACAGAAAGGAAATCCTAATCCTTCTGTTTTGAGAAAGAGAGAACTGTAGT  |      |      |      |      |      |      |      |      |      |  |
| E | AGAAAAATATCAACAGAACTCTAGCCAAAGGCAAGCCCAAGAACTCAGACAACAGAAAGGAAATCCTAATCCTTCTGTTTTGAGAAAGAGAGAACTGTAGT  |      |      |      |      |      |      |      |      |      |  |
| F | AGAAAAATATCAACAGAACTCTAGCCAAAGGCAAGCCCAAGAACTCAGACAACAGAAAGGAAATCCTAATCCTTCTGTTTTGAGAAAGAGAGAACTGTAGT  |      |      |      |      |      |      |      |      |      |  |
|   | 2510   | 2520 | 2530 | 2540 | 2550 | 2560 | 2570 | 2580 | 2590 | 2600 |  |
| A | TGCTTCACTTCCTATTTTCATGACAGAAATAACTGCAAACTTTTAAGATCAGGAAATGTAGACATCTAGTGATTTCTTTAGTAGACAGTTTAATTTCCCCCA |      |      |      |      |      |      |      |      |      |  |
| B | TGCTTCACTTCCTATTTTCATGACAGAAATAACTGCAAACTTTTAAGATCAGGAAATGTAGACATCTAGTGATTTCTTTAGTAGACAGTTTAATTTCCCCCA |      |      |      |      |      |      |      |      |      |  |
| C | TGCTTCACTTCCTATTTTCATGACAGAAATAACTGCAAACTTTTAAGATCAGGAAATGTAGACATCTAGTGATTTCTTTAGTAGACAGTTTAATTTCCCCCA |      |      |      |      |      |      |      |      |      |  |
| D | TGCTTCACTTCCTATTTTCATGACAGAAATAACTGCAAACTTTTAAGATCAGGAAATGTAGACATCTAGTGATTTCTTTAGTAGACAGTTTAATTTCCCCCA |      |      |      |      |      |      |      |      |      |  |
| E | TGCTTCACTTCCTATTTTCATGACAGAAATAACTGCAAACTTTTAAGATCAGGAAATGTAGACATCTAGTGATTTCTTTAGTAGACAGTTTAATTTCCCCCA |      |      |      |      |      |      |      |      |      |  |
| F | TGCTTCACTTCCTATTTTCATGACAGAAATAACTGCAAACTTTTAAGATCAGGAAATGTAGACATCTAGTGATTTCTTTAGTAGACAGTTTAATTTCCCCCA |      |      |      |      |      |      |      |      |      |  |
|   | 2610   | 2620 | 2630 | 2640 | 2650 | 2660 | 2670 | 2680 | 2690 | 2700 |  |
| A | AGATTAGGAGACACTTCTGTGCAGGTTCTAAAAGGAGCCCCAATGGCCTGGGTGGGAGTGGGAGTAGATAGGGAATATGTGGGATTTGGTTTAAGTTCA    |      |      |      |      |      |      |      |      |      |  |
| B | AGATTAGGAGACACTTCTGTGCAGGTTCTAAAAGGAGCCCCAATGGCCTGGGTGGGAGTGGGAGTAGATAGGGAATATGTGGGATTTGGTTTAAGTTCA    |      |      |      |      |      |      |      |      |      |  |
| C | AGATTAGGAGACACTTCTGTGCAGGTTCTAAAAGGAGCCCCAATGGCCTGGGTGGGAGTGGGAGTAGATAGGGAATATGTGGGATTTGGTTTAAGTTCA    |      |      |      |      |      |      |      |      |      |  |
| D | AGATTAGGAGACACTTCTGTGCAGGTTCTAAAAGGAGCCCCAATGGCCTGGGTGGGAGTGGGAGTAGATAGGGAATATGTGGGATTTGGTTTAAGTTCA    |      |      |      |      |      |      |      |      |      |  |
| E | AGATTAGGAGACACTTCTGTGCAGGTTCTAAAAGGAGCCCCAATGGCCTGGGTGGGAGTGGGAGTAGATAGGGAATATGTGGGATTTGGTTTAAGTTCA    |      |      |      |      |      |      |      |      |      |  |
| F | AGATTAGGAGACACTTCTGTGCAGGTTCTAAAAGGAGCCCCAATGGCCTGGGTGGGAGTGGGAGTAGATAGGGAATATGTGGGATTTGGTTTAAGTTCA    |      |      |      |      |      |      |      |      |      |  |

Fig. 11X-9

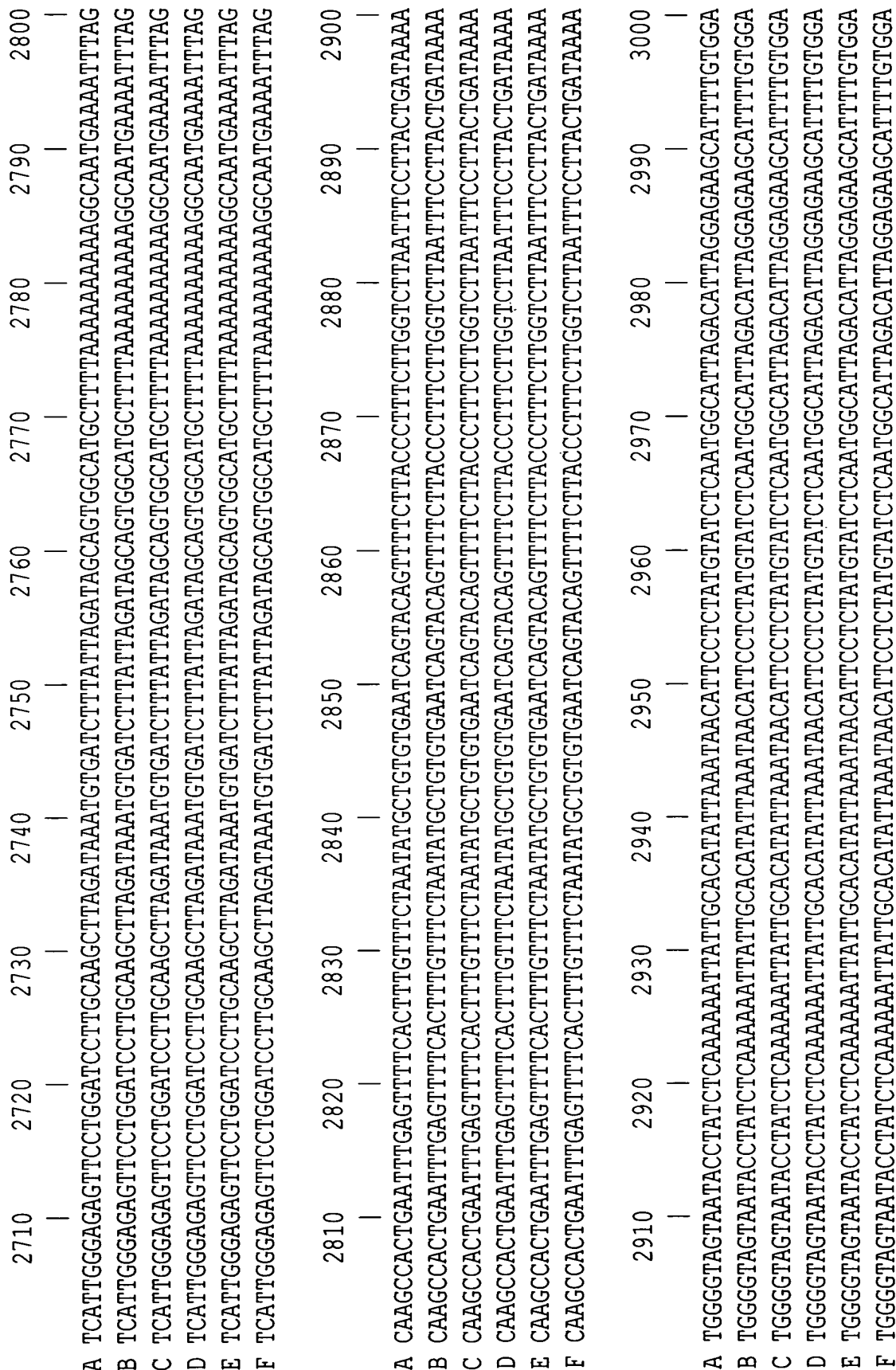


Fig. 11X-10

**Fig. 11X-11**



# Figure 11X-12

|      |  |      |      |      |      |      |      |      |      |
|------|--|------|------|------|------|------|------|------|------|
| 3310 | 3320   | 3330 | 3340 | 3350 | 3360 | 3370 | 3380 | 3390 | 3400 |
|      |  |      |      |      |      |      |      |      |      |
| A    | CTAAGCACAAAAATAAAAACTTATCACTGTAAAAAAGTCTCTCGTATAGCAAAATCTAACTGATGCAATCTCCATCTGGCCCTTC                    |      |      |      |      |      |      |      |      |
| B    | CTAAGCACAAAAATAAAAACTTATCACTGTAAAAAAGTCTCTCGTATAGCAAAATCTAACTGATGCAATCTCCATCTGGCCCTTC                    |      |      |      |      |      |      |      |      |
| C    | CTAAGCACAAAAATAAAAACTTATCACTGTAAAAAAGTCTCTCGTATAGCAAAATCTAACTGATGCAATCTCCATCTGGCCCTTC                    |      |      |      |      |      |      |      |      |
| D    | CTAAGCACAAAAATAAAAACTTATCACTGTAAAAAAGTCTCTCGTATAGCAAAATCTAACTGATGCAATCTCCATCTGGCCCTTC                    |      |      |      |      |      |      |      |      |
| E    | CTAAGCACAAAAATAAAAACTTATCACTGTAAAAAAGTCTCTCGTATAGCAAAATCTAACTGATGCAATCTCCATCTGGCCCTTC                    |      |      |      |      |      |      |      |      |
| F    | CTAAGCACAAAAATAAAAACTTATCACTGTAAAAAAGTCTCTCGTATAGCAAAATCTAACTGATGCAATCTCCATCTGGCCCTTC                    |      |      |      |      |      |      |      |      |
| 3410 | 3420   | 3430 | 3440 | 3450 | 3460 | 3470 | 3480 | 3490 | 3500 |
|      |  |      |      |      |      |      |      |      |      |
| A    | ATCCTTCTCCCTTTATTTGTCCTTTTCGTGTATTGTTTCATCCAGCAACCAGGATGATCTTGTAAAAACATTAAACAGATTCTGTCTCAYKCTTTMAAAAAA   |      |      |      |      |      |      |      |      |
| B    | ATCCTTCTCCCTTTATTTGTCCTTTTCGTGTATTGTTTCATCCAGCAACCAGGATGATCTTGTAAAAACATTAAACAGATTCTGTCTCAYKCTTTMAAAAAA   |      |      |      |      |      |      |      |      |
| C    | ATCCTTCTCCCTTTATTTGTCCTTTTCGTGTATTGTTTCATCCAGCAACCAGGATGATCTTGTAAAAACATTAAACAGATTCTGTCTCAYKCTTTMAAAAAA   |      |      |      |      |      |      |      |      |
| D    | ATCCTTCTCCCTTTATTTGTCCTTTTCGTGTATTGTTTCATCCAGCAACCAGGATGATCTTGTAAAAACATTAAACAGATTCTGTCTCAYKCTTTMAAAAAA   |      |      |      |      |      |      |      |      |
| E    | ATCCTTCTCCCTTTATTTGTCCTTTTCGTGTATTGTTTCATCCAGCAACCAGGATGATCTTGTAAAAACATTAAACAGATTCTGTCTCAYKCTTTMAAAAAA   |      |      |      |      |      |      |      |      |
| F    | ATCCTTCTCCCTTTATTTGTCCTTTTCGTGTATTGTTTCATCCAGCAACCAGGATGATCTTGTAAAAACATTAAACAGATTCTGTCTCAYKCTTTMAAAAAA   |      |      |      |      |      |      |      |      |
| 3510 | 3520   | 3530 | 3540 | 3550 | 3560 | 3570 | 3580 | 3590 | 3600 |
|      |  |      |      |      |      |      |      |      |      |
| A    | AAAGCCATGAAATNTAGCAAGCCACTGAATTTGAGTTTTTCACTTTTGGTTTCTAATAATGCTGTGTGAATCAGANCAGKTTTCTTACCCCTTTCTTGGTCTT  |      |      |      |      |      |      |      |      |
| B    | AAAGCCATG-AAAATTAGCAAGCCACTGAATTTGAGTTTTTCACTTTTGGTTTCTAATAATGCTGTGTGAATCAGANCAGKTTTCTTACCCCTTTCTTGGTCTT |      |      |      |      |      |      |      |      |
| C    | AAAGCCATGAAATNTAGCAAGCCACTGAATTTGAGTTTTTCACTTTTGGTTTCTAATAATGCTGTGTGAATCAGANCAGKTTTCTTACCCCTTTCTTGGTCTT  |      |      |      |      |      |      |      |      |
| D    | AAAGCCATGAAATNTAGCAAGCCACTGAATTTGAGTTTTTCACTTTTGGTTTCTAATAATGCTGTGTGAATCAGANCAGKTTTCTTACCCCTTTCTTGGTCTT  |      |      |      |      |      |      |      |      |
| E    | AAAGCCATGAAATNTAGCAAGCCACTGAATTTGAGTTTTTCACTTTTGGTTTCTAATAATGCTGTGTGAATCAGANCAGKTTTCTTACCCCTTTCTTGGTCTT  |      |      |      |      |      |      |      |      |
| F    | AAAGCCATGAAATNTAGCAAGCCACTGAATTTGAGTTTTTCACTTTTGGTTTCTAATAATGCTGTGTGAATCAGANCAGKTTTCTTACCCCTTTCTTGGTCTT  |      |      |      |      |      |      |      |      |

Fig. 11X-12

|   |   |      |      |      |      |      |      |      |      |      |
|---|---|------|------|------|------|------|------|------|------|------|
|   | 3610  | 3620 | 3630 | 3640 | 3650 | 3660 | 3670 | 3680 | 3690 | 3700 |
| A | AATTCCTTACTGATAAAATGGGGTGWGTAATACCTATCTCAAAAAATTATTGCACATATTARATAACATTCCCTCTATGTATCTCAATGGCATTAGACATT |      |      |      |      |      |      |      |      |      |
| B | AATTCCTTACTGATAAAATGGGGTGWGTAATACCTATCTCAAAAAATTATTGCACATATTARATAACATTCCCTCTATGTATCTCAATGGCATTAGACATT |      |      |      |      |      |      |      |      |      |
| C | AATTCCTTACTGATAAAATGGGGTGWGTAATACCTATCTCAAAAAATTATTGCACATATTARATAACATTCCCTCTATGTATCTCAATGGCATTAGACATT |      |      |      |      |      |      |      |      |      |
| D | AATTCCTTACTGATAAAATGGGGTGWGTAATACCTATCTCAAAAAATTATTGCACATATTARATAACATTCCCTCTATGTATCTCAATGGCATTAGACATT |      |      |      |      |      |      |      |      |      |
| E | AATTCCTTACTGATAAAATGGGGTGWGTAATACCTATCTCAAAAAATTATTGCACATATTARATAACATTCCCTCTATGTATCTCAATGGCATTAGACATT |      |      |      |      |      |      |      |      |      |
| F | AATTCCTTACTGATAAAATGGGGTGWGTAATACCTATCTCAAAAAATTATTGCACATATTARATAACATTCCCTCTATGTATCTCAATGGCATTAGACATT |      |      |      |      |      |      |      |      |      |
|   | 3710  | 3720 | 3730 | 3740 | 3750 | 3760 | 3770 | 3780 | 3790 | 3800 |
| A | AGGAGAAGCATTTTGTGGAGGATTGGAAGTTGAGATCTTCCATCCAAAGTAGCTTTTCAATTGSTAGAAGCTTAATGTAGGCAAGCCACCTTCATTTT    |      |      |      |      |      |      |      |      |      |
| B | AGGAGAAGCATTTTGTGGAGGATTGGAAGTTGAGATCTTCCATCCAAAGTAGCTTTTCAATTGSTAGAAGCTTAATGTAGGCAAGCCACCTTCATTTT    |      |      |      |      |      |      |      |      |      |
| C | AGGAGAAGCATTTTGTGGAGGATTGGAAGTTGAGATCTTCCATCCAAAGTAGCTTTTCAATTGSTAGAAGCTTAATGTAGGCAAGCCACCTTCATTTT    |      |      |      |      |      |      |      |      |      |
| D | AGGAGAAGCATTTTGTGGAGGATTGGAAGTTGAGATCTTCCATCCAAAGTAGCTTTTCAATTGSTAGAAGCTTAATGTAGGCAAGCCACCTTCATTTT    |      |      |      |      |      |      |      |      |      |
| E | AGGAGAAGCATTTTGTGGAGGATTGGAAGTTGAGATCTTCCATCCAAAGTAGCTTTTCAATTGSTAGAAGCTTAATGTAGGCAAGCCACCTTCATTTT    |      |      |      |      |      |      |      |      |      |
| F | AGGAGAAGCATTTTGTGGAGGATTGGAAGTTGAGATCTTCCATCCAAAGTAGCTTTTCAATTGSTAGAAGCTTAATGTAGGCAAGCCACCTTCATTTT    |      |      |      |      |      |      |      |      |      |
|   | 3810  | 3820 | 3830 | 3840 | 3850 | 3860 | 3870 | 3880 | 3890 | 3900 |
| A | CAGAACTTGTTTACTCATTTATAATATGGGAATAAAAAATTGTGCAAGTCAGAGAAGGGTGCCTTAAAAATGTTGTGGCCAAAGCCACATGAGATCAAAGA |      |      |      |      |      |      |      |      |      |
| B | CAGAACTTGTTTACTCATTTATAATATGGGAATAAAAAATTGTGCAAGTCAGAGAAGGGTGCCTTAAAAATGTTGTGGCCAAAGCCACATGAGATCAAAGA |      |      |      |      |      |      |      |      |      |
| C | CAGAACTTGTTTACTCATTTATAATATGGGAATAAAAAATTGTGCAAGTCAGAGAAGGGTGCCTTAAAAATGTTGTGGCCAAAGCCACATGAGATCAAAGA |      |      |      |      |      |      |      |      |      |
| D | CAGAACTTGTTTACTCATTTATAATATGGGAATAAAAAATTGTGCAAGTCAGAGAAGGGTGCCTTAAAAATGTTGTGGCCAAAGCCACATGAGATCAAAGA |      |      |      |      |      |      |      |      |      |
| E | CAGAACTTGTTTACTCATTTATAATATGGGAATAAAAAATTGTGCAAGTCAGAGAAGGGTGCCTTAAAAATGTTGTGGCCAAAGCCACATGAGATCAAAGA |      |      |      |      |      |      |      |      |      |
| F | CAGAACTTGTTTACTCATTTATAATATGGGAATAAAAAATTGTGCAAGTCAGAGAAGGGTGCCTTAAAAATGTTGTGGCCAAAGCCACATGAGATCAAAGA |      |      |      |      |      |      |      |      |      |

Fig. 11X-13

# Figure 11X-14

|   |   |      |      |      |      |      |      |      |      |      |
|---|---|------|------|------|------|------|------|------|------|------|
|   | 3910  | 3920 | 3930 | 3940 | 3950 | 3960 | 3970 | 3980 | 3990 | 4000 |
| A | CACACTTTTCATGACCTCAAATGTGGGCCCCAGCCTAGGTCAGCCAAACCCCATCCAAACCTTAGACTCAGCAACAAATCCACCTGAGATCAGCAGAGCCA |      |      |      |      |      |      |      |      |      |
| B | CACACTTTTCATGACCTCAAATGTGGGCCCCAGCCTAGGTCAGCCAAACCCCATCCAAACCTTAGACTCAGCAACAAATCCACCTGAGATCAGCAGAGCCA |      |      |      |      |      |      |      |      |      |
| C | CACACTTTTCATGACCTCAAATGTGGGCCCCAGCCTAGGTCAGCCAAACCCCATCCAAACCTTAGACTCAGCAACAAATCCACCTGAGATCAGCAGAGCCA |      |      |      |      |      |      |      |      |      |
| D | CACACTTTTCATGACCTCAAATGTGGGCCCCAGCCTAGGTCAGCCAAACCCCATCCAAACCTTAGACTCAGCAACAAATCCACCTGAGATCAGCAGAGCCA |      |      |      |      |      |      |      |      |      |
| E | CACACTTTTCATGACCTCAAATGTGGGCCCCAGCCTAGGTCAGCCAAACCCCATCCAAACCTTAGACTCAGCAACAAATCCACCTGAGATCAGCAGAGCCA |      |      |      |      |      |      |      |      |      |
| F | CACACTTTTCATGACCTCAAATGTGGGCCCCAGCCTAGGTCAGCCAAACCCCATCCAAACCTTAGACTCAGCAACAAATCCACCTGAGATCAGCAGAGCCA |      |      |      |      |      |      |      |      |      |
|   | 4010  | 4020 | 4030 | 4040 | 4050 | 4060 | 4070 | 4080 | 4090 |      |
| A | CCCTAGATCAGCTGAAACTCTAAGCACAAAAATAAAAACTTATCACTGTAAAAAATAAAAAAAGCACCTGCCCGGGCGGGCGGGCC                |      |      |      |      |      |      |      |      |      |
| B | CCCTAGATCAGCTGAAACTCTAAGCACAAAAATAAAAACTTATCACTGTAAAAAATAAAAAAAGCACCTGCCCGGGCGGGCGGGCC                |      |      |      |      |      |      |      |      |      |
| C | CCCTAGATCAGCTGAAACTCTAAGCACAAAAATAAAAACTTATCACTGTAAAAAATAAAAAAAGCACCTGCCCGGGCGGGCGGGCC                |      |      |      |      |      |      |      |      |      |
| D | CCCTAGATCAGCTGAAACTCTAAGCACAAAAATAAAAACTTATCACTGTAAAAAATAAAAAAAGCACCTGCCCGGGCGGGCGGGCC                |      |      |      |      |      |      |      |      |      |
| E | CCCTAGATCAGCTGAAACTCTAAGCACAAAAATAAAAACTTATCACTGTAAAAAATAAAAAAAGCACCTGCCCGGGCGGGCGGGCC                |      |      |      |      |      |      |      |      |      |
| F | CCCTAGATCAGCTGAAACTCTAAGCACAAAAATAAAAACTTATCACTGTAAAAAATAAAAAAAGCACCTGCCCGGGCGGGCGGGCC                |      |      |      |      |      |      |      |      |      |

Fig. 11X-14

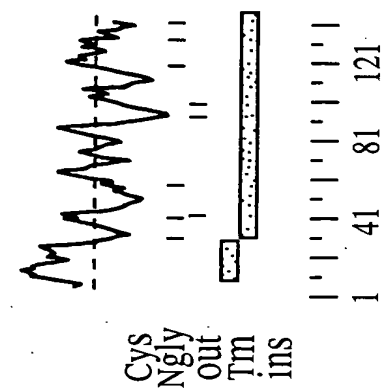


FIG. 11Y-1

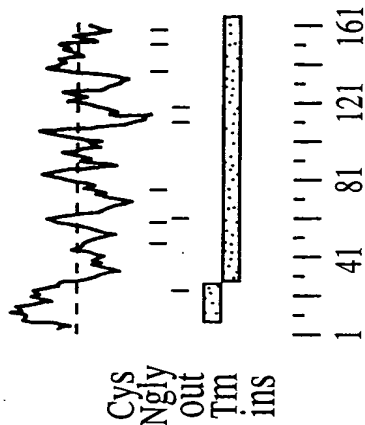


FIG. 11Y-3

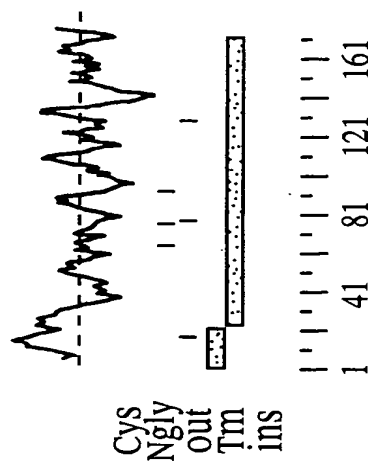


FIG. 11Y-2

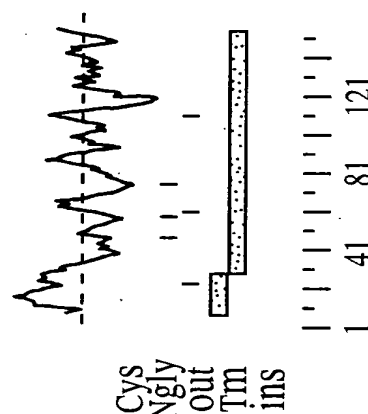


FIG. 11Y-4

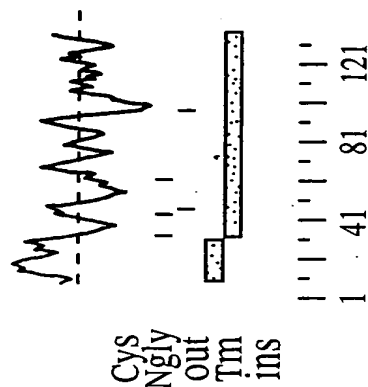


FIG. 11Y-5

FIG. 11Y-6

Met Asn Trp His Met Ile Ile Ser Gly Leu Ile  
1 5 10

|   |     |
|---|-----|
| CCA CAG GTT TTT GGC AAA AGT AAT GAT GGC TTC GTC CCC ACG GAG AGC | 326 |
| Pro Gln Val Phe Gly Lys Ser Asn Asp Gly Phe Val Pro Thr Glu Ser | 40  |
|   | 35  |
|   | 30  |

GAC GAA AGT ACC ATG CCT ACA AGG AGC TAT GGA ACA GTC TGT CCC AGA 422  
Asp Glu Ser Thr Met Pro Thr Arg Ser Tyr Gly Thr Val Cys Pro Arg 75  
60 65 70

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AAC | TGG | GAT | TTT | CAC | CAA | GGA | AAA | TGC | TTT | TTC | TTC | TCC | TTC | TCC | GAA | 470 |
| Asn | Trp | Asp | Phe | His | Gln | Gly | Lys | Cys | Phe | Phe | Phe | Ser | Phe | Ser | Glu |     |
|     |     |     |     | 80  |     |     |     | 85  |     |     |     |     |     | 90  |     |     |

**Fig. 11Z-1**

# Sequence

|   |     |
|---|-----|
| TCA CCT TGG AAA GAC AGC ATG GAT TAT TGT GCA ACA CAA GGA TCC ACA | 518 |
| Ser Pro Trp Lys Asp Ser Met Asp Tyr Cys Ala Thr Gln Gly Ser Thr | 105 |
|   | 100 |
| CTG GCA ATT GTC AAC ACT CCA GAG AAA CTG AAG TAT CTT CAG GAC ATA | 566 |
| Leu Ala Ile Val Asn Thr Pro Glu Lys Leu Lys Tyr Leu Gln Asp Ile | 120 |
|   | 115 |
| GCT GGT ATT GAG AAT TAC TTT ATT GGT TTG GTA CGT CAG CCT GGA GAG | 614 |
| Ala Gly Ile Glu Asn Tyr Phe Ile Gly Leu Val Arg Gln Pro Gly Glu | 135 |
|   | 130 |
| AAA AAG TGG CGC TGG ATC AAC AAC TCT GTG TTC AAT GGC AAT GTT ACC | 662 |
| Lys Lys Trp Arg Trp Ile Asn Asn Ser Val Phe Asn Gly Asn Val Thr | 155 |
|   | 150 |
| AAT CAG GAC CAG AAC TTC GAC TGT GTC ACT ATA GGT CTG ACG AAG ACA | 710 |
| Asn Gln Asp Gln Asn Phe Asp Cys Val Thr Ile Gly Leu Thr Lys Thr | 170 |
|   | 165 |
| TAT GAT GCT GCA TCA TGT GAA GTC AGC TAT CGC TGG ATC TGC GAA ATG | 758 |
| Tyr Asp Ala Ala Ser Cys Glu Val Ser Tyr Arg Trp Ile Cys Glu Met | 185 |
|   | 180 |
|   | 175 |

**Fig. 11Z-2**

|   |      |
|---|------|
| AAT GCC AAA TGATCATAGA TCTCTACAAG AGTGAATTTT TACAGAGCTA             | 807  |
| Asn Ala Lys   |      |
| 190   |      |
| GCAAAGGAGA TTAGTTGTGA CTGAAACCAG CCCAGGAAAT ATAGAGCATC AAAGACTGTG   | 867  |
| CCCATCTTCC ATAGGTGGAG TTCCCTATTG AATCCTCAAA GTCAATTTGT TACTCCACAA   | 927  |
| ACATCTTCAC ATAGTAAAC TCCCTTTCTG ACCAAGTATT CCCTAAGACC ACACTTCCTG    | 987  |
| TGAGAGGGA CTGGATTCTA GTTATCTGCA GACAGAGCCA GGATTCTGGA GATGAAATCA    | 1047 |
| ATATGGAAAT GCAGTCTGTT TCTGTAGAGC TGAGCCTTTT AACTAATCAG TAGGGTTTTG   | 1107 |
| TCTGTTGTCA GAACTGTTTG ATCCTTAGAG AACATGCCCA CGCCACTGAG GAGAAACTGC   | 1167 |
| TCGTGGAACA GATATGAGAA CTGTTAGGAA GCACTATGGG CAGAAGAATA TAAACTTGGC   | 1227 |
| TTCACAACAT CCCCATTCC AGAAAGCCCTC CCATTCCCAT ACAACATCGT AGAAGCAGAG   | 1287 |
| GTCCCTTCTGA ATTGGGGAAG GACCTCTACA GCTCGACTTG GTACTGAACA AATATTGAGG  | 1347 |
| GAAATGAAGAA AGTCTCTGAAT AGGACAGAGA TAAACAAGGA GGAGAAGGAA AGAGATAGGA | 1407 |
| AGAAAGGAGA AGTGGGAAGG AGGGGAAAA GGAATGATGG GCAGGAGAAA AAGAGACAGG    | 1467 |
| AGCAGCCAGG AAAAACACTC AAGCTAAAAT TTTTTCAGGT TTTGGATAAA ATCTATTGTG   | 1527 |
| ACATAAATAA TATCTTTTCA TTAGAAGAGA AAAGGCAAAA TTGGGGACAA ATGGGCACCA   | 1587 |
| TGAGAGATGA AGCAGAGGTT AATTTGATCA CAAGGAAAGA AAGGCAGGAA TGAGGTTGAA   | 1647 |
| AACTTTTGG ATACCTTGGC TGTTATCTCA AGAAGGTACA AGCTGCATAA AGTATAGGAG    | 1707 |
| AAAAGAGATG TGCTGGTTGT TTAAAGTAGC AAAAATTAAA CTACAGAGAA GCCTATAGAA   | 1767 |
| AGCTAAAGGA ATTAAAACCA TCCAATAATC AATTCAATTAT TTTCAACTAA TAGCAATATG  | 1827 |
| TATGTGCATT ACTAGTCAAA ATAAATTGTG AATTCTGTTA TTATAAAAAA AAAAAAAG     | 1887 |
| GGCGGCCGC   | 1896 |

Fig. 11Z-3

MI289 ATGAACTGGCACATGATCATCTCGGGGCTTATCGTAGTAGTCAAAAGTTGTTGGAATG 60  
 |||||  
 HI289 ATGAACTGGCACATGATCATCTCGGGCTTATCGTAGTAGTCAAAAGTTGTTGGAATG 60  
 |||||  
 MI289 ACCTTTTCTGCTGATTTCCACAGGTTTTTGGCAAAAGTAATGATGGCTTCGTCCCC 120  
 |||||  
 HI289 ACCTTATTCTACTTTATTCCACACAGATTTTAAACAAAAGTAACGATGGTTTCACCACC 120  
 |||||  
 MI289 ACGGAGAGCTACGGAAACCACTAGTGTGCAGAAATGTCTCACAGATCTTTGGGAGAAATGAC 180  
 |||||  
 HI289 ACCAGGAGCTATGGAACA-----GTCTCACAGATTTTGGGAGCAGTTCCTCCCAAGTCCC 174  
 |||||  
 MI289 GAAAGTACCATGCCTACAAGGAGCTATGGAACAGTCTGTCTCCAGAAACTGGGATTTTCAC 240  
 |||||  
 HI289 AACGGCTTCATTACCCACAAGGAGCTATGGAACAGTCTGCCCCCAAGACTGGGAAATTTTAT 234  
 |||||  
 MI289 CAAGGAAAATGCTTTTCTCTCCTTCTCCGAATCACCTTGGAAGACAGCATGGATTAT 300  
 |||||  
 HI289 CAAGCAAGATGTTTTTCTTATCCACTTCTGAATCATCTTGGAATGAAAGCAGGGACTTT 294  
 |||||

Fig. 11Z-4



|       |  |     |
|-------|--|-----|
| MI289 | ATGAACTGGCACATGATCATCTCGGGGCTTATCGTAGTAGTCAAAAGTTGTTGGAATG     | 60  |
| HI289 | ATGAACTGGCACATGATCATCTCGGGCTTATCGTAGTAGTCAAAAGTTGTTGGAATG      | 60  |
| MI289 | ACCTTTTCTGCTGTATTTCCACACAGGTTTTTGGCAAAAGTAATGATGGCTTCGTCCCC    | 120 |
| HI289 | ACCTTATTCTACTTTATTTCCACACAGATTTTAAACAAAGTAACGATGGTTTCACCCACC   | 120 |
| MI289 | ACGGAGAGCTACGGAACCACTAGTGTGCAGAAATGTCTCACAGATCTTTGGGAGAAATGAC  | 180 |
| HI289 | ACCGAGAGCTATGGAACA-----GTCTCACAGATTTTGGGAGCAGTTCCTCCCAAGTCCC   | 174 |
| MI289 | GAAAGTACCATGCCCTACAAGGAGCTATGGAACAGTCTGTCTCCAGAAACTGGGATTTTCAC | 240 |
| HI289 | AACGGCTTCATTACCACAAGGAGCTATGGAACAGTCTGCCCCCAAGACTGGGAATTTTAT   | 234 |
| MI289 | CAAGGAAAAATGCTTTTCTCTCCTTCTCCGAATCACCTTGGAAGACAGCATGGATTAT     | 300 |
| HI289 | CAAGCAAGATGTTTTTCTTATCCACTTCTGAATCATCTTGGAAATGAAAGCAGGGACTTT   | 294 |

Fig. 11Z-4

MI289 TGTGCAACACAAGGATCCACACTGGCAATTGTCAACACTCCAGAGAAACTGAAGTATCTT 360  
|| | ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| |||

HI289 TGCAAAGGAAAAGGATCCACATTTGGCAATTGTCAACACGCCAGAGAAACTGAAGTTTCTT 354

MI289 CAGGACATAGCTGGTATTGAGAATTACTTTATTGGTTTGCTACGTCAGCCTGGAGAGAAA 420  
||||||| ||| | ||||||| ||||||| ||||||| || || || |||||||

HI289 CAGGACATAA CTGATGCTGAGAGAGTATTTTATTGGCTTAATTACCATCGTGAAGAGAAA 414

MI289 AAGTGGCGCTGGATCAACA ACTCTGTGTTCAATGGCAATGTTACCAATCAGGACCAGAAC 480  
| ||||| ||||||| ||||||| ||||||| ||||||| ||||||| | |||||

HI289 AGTGGCGTTGGATCAACA ACTCTGTGTTCAATGGCAATGTTACATCATCCAATCAGAAT 474

MI289 TTCGACTGTGTCACTATAGGTCTGACGAAAGACATATGATGCTGCATCATGTGAAGTCAGC 540  
| | | | | | | | | | | | | | | | | | | | | | | | | | | |

HI289 CAGAA TTTCAACTGTGCGACCA TTGGCCTAACAAAGACATTTGATGCTGGTGACATCAGC 534

MI289 TATCGCTGGATCTGCGAAATGAATGCCAAA 570

|| ||| ||||||| || | |||||||

HI289 TACCGCAGGATCTGTGAGAAGAATGCCAAA 564

**Fig. 11Z-5**

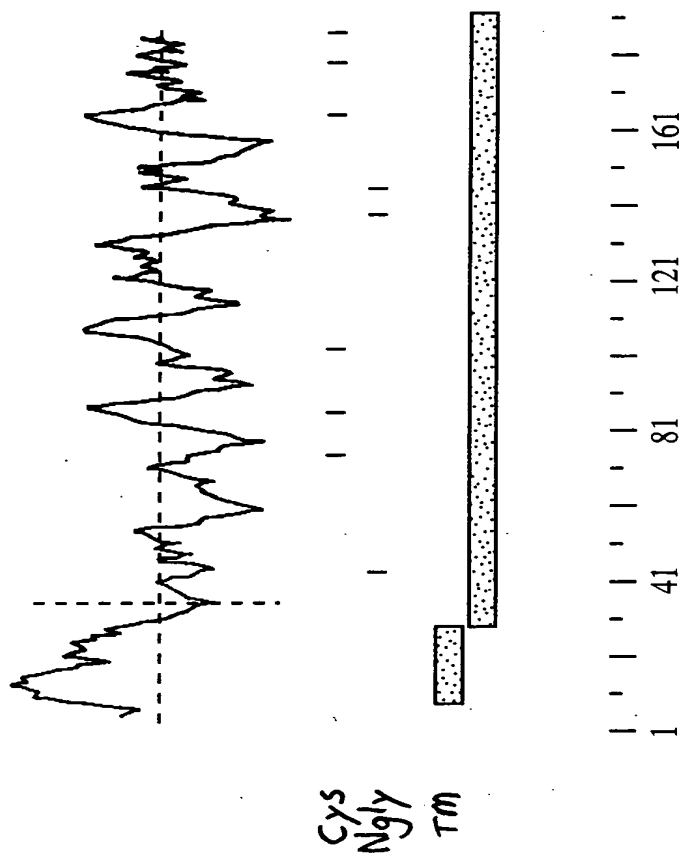


FIG. 11Z-6

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| L   | F   | L   | G   | G   | V   | G   | M   | V   | G   | T   | V   | A   | V   | T   | V   | M   | P   | Q   | 19  |
| G   | CTG | TTT | CTT | GGT | GGT | GGA | ATG | GTG | GGC | ACA | GTG | GCT | GTC | ACT | GTC | ATG | CCT | CAG | 58  |
| W   | R   | V   | S   | A   | F   | I   | E   | N   | N   | I   | V   | V   | F   | E   | N   | F   | W   | E   | 39  |
| TGG | AGA | GTG | TCG | GCC | TTC | ATT | GAA | AAC | AAC | ATC | GTG | GTT | TTT | GAA | AAC | TTC | TGG | GAA | 118 |
| L   | W   | M   | N   | C   | V   | R   | Q   | A   | N   | I   | R   | M   | Q   | C   | K   | I   | Y   | D   | 59  |
| CTG | TGG | ATG | AAT | TGC | GTG | AGG | CAG | GCT | AAC | ATC | AGG | ATG | CAG | TGC | AAA | ATC | TAT | GAT | 178 |
| L   | L   | A   | L   | S   | P   | D   | L   | Q   | A   | A   | R   | G   | L   | M   | C   | A   | A   | S   | 79  |
| CTG | CTG | GCT | CTT | TCT | CCG | GAC | CTA | CAG | GCA | GCC | AGA | GGA | CTG | ATG | TGT | GCT | GCT | TCC | 238 |
| M   | S   | F   | L   | A   | F   | M   | M   | A   | I   | L   | G   | M   | K   | C   | T   | R   | C   | T   | 99  |
| ATG | TCC | TTC | TTG | GCT | TTC | ATG | ATG | GCC | ATC | CTT | GGC | ATG | AAA | TGC | ACC | AGG | TGC | ACG | 298 |
| D   | N   | E   | K   | V   | K   | A   | H   | I   | L   | L   | T   | A   | G   | I   | I   | F   | I   | I   | 119 |
| GAC | AAT | GAG | AAG | GTG | AAG | GCT | CAC | ATT | CTG | CTG | ACG | GCT | GGA | ATC | ATC | TTC | ATC | ATC | 358 |
| G   | M   | V   | V   | L   | I   | P   | V   | S   | W   | V   | A   | N   | A   | I   | I   | R   | D   | F   | 139 |
| GGC | ATG | GTG | GTG | CTC | ATC | CCT | GTG | AGC | TGG | GTT | GCC | AAT | GCC | ATC | ATC | AGA | GAT | TTC | 418 |
| N   | S   | I   | V   | N   | V   | A   | Q   | K   | R   | E   | L   | G   | E   | A   | L   | Y   | L   | G   | 159 |
| AAC | TCA | ATA | GTG | AAT | GTT | GCC | CAA | AAA | CGT | GAG | CTT | GGA | GAA | GCT | CTC | TAC | TTA | GGA | 478 |

104/361

Fig. 12A

[illegible]

**Fig. 12B**

|  |      |
|--|------|
| CCAAAAACAACAAAAAAGTTGTCCTTTGAGAACTTCACCTGCTCCTATGTGGGTACCTGAGTCAAAATTGTCA        | 1676 |
| TTTTTGTCTGTGAAAAATAAATTTCCTTCTTGTACCATTTCTGTCTTTTACTAAAAATCTGTAAATACTGTATTTT     | 1755 |
| TCTGTTTATTCCAAATTTGATGAAACTGACAATCCAATTTGAAAGTTTGTGTCGACGCTCTGTCTAGCTTAAATGAATGT | 1834 |
| GTTCTATTTGCTTTATACATTTATATTAATAAATTGTACATTTTCTAAAAAATAAAAAAATAAAAAA              | 1909 |

**Fig. 12C**

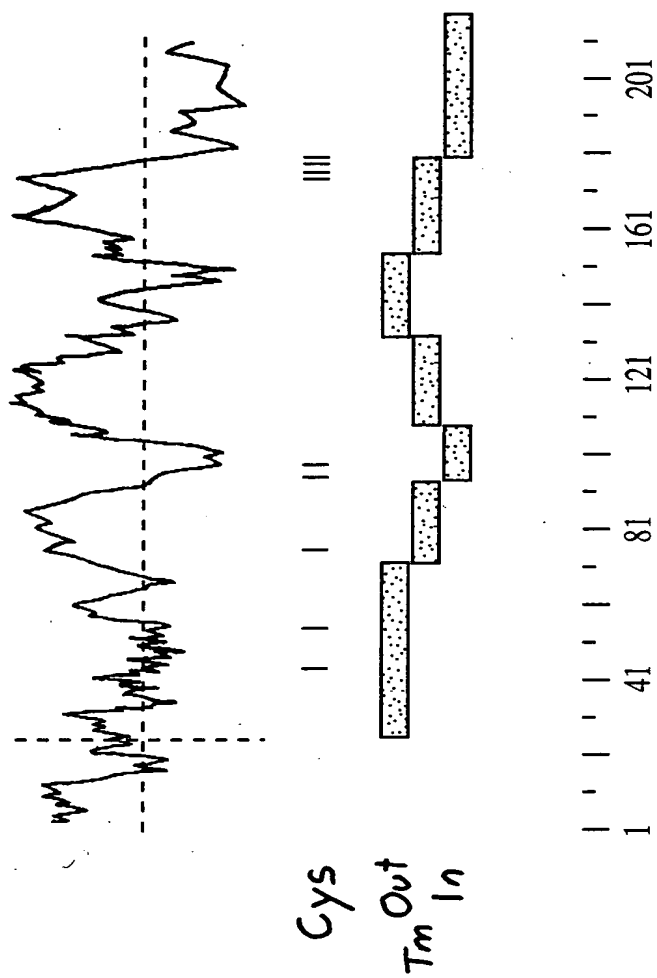


FIG. 12D





DKFZ -----

I309 TCATCACGGGCATGGTGGTCTCATCCCTGTGAGCTGGGTGCCAATGCCATCATCAGAGATTTCATAA  
360 370 380 390 400 410 420

DKFZ -----

I309 CTCAATAGTGAATGTTGCCCAAAACGTGAGCTTGGAGAAGCTCTCTACTTAGGATGGACCACGGCACTG  
430 440 450 460 470 480 490

DKFZ -----

I309 GTGCTGATTGTTGGAGGAGCTCTGTTCTGCTGCGTTTTTTTGTGCAACGAAAAGACGAGTAGCTACAGAT  
500 510 520 530 540 550 560

DKFZ -----

I309 ACTCGATACCTTCCCATCGCACAAACCCAAAAGTTATCACACCGGAAAGAGTCACCGAGCGTCTACTC  
570 580 590 600 610 620 630

DKFZ -----

I309 CAGAAATCAGTATGTGTAGTTGTGTATGTTTTTTTAACTTTACTATAAAGCCATGCAAAATGACAAAAATC  
640 650 660 670 680 690 700

**Fig. 12F**

**Fig. 12G**

|       |  |      |      |      |      |      |
|-------|--|------|------|------|------|------|
| 170   | 180  | 190  | 200  | 210  | 220  | 230  |
| DKFZ  | ACATAGATGAGTGTAAACATTATATCTCACATAGACACATGCTTATATGGTTTTATTATAAAATGAAATGCG                 |      |      |      |      |      |
|       | :: |      |      |      |      |      |
| II309 | ACATAGATGAGTGTAAACATTATATCTCACATAGACACATGCTTATATGGTTTTATTATAAAATGAAATGCG                 |      |      |      |      |      |
| 990   | 1000   | 1010 | 1020 | 1030 | 1040 | 1050 |
| 240   | 250  | 260  | 270  | 280  | 290  | 300  |
| DKFZ  | CAGTCCATTACACTGAATAAATAAGAACTCAACTATTGCTTTTCAGGAAATCATGGATAGGGTTGAAGAA                   |      |      |      |      |      |
|       | :: |      |      |      |      |      |
| II309 | CAGTCCATTACACTGAATAAATAAGAACTCAACTATTGCTTTTCAGGAAATCATGGATAGGGTTGAAGAA                   |      |      |      |      |      |
| 1060  | 1070   | 1080 | 1090 | 1100 | 1110 | 1120 |
| 310   | 320  | 330  | 340  | 350  | 360  | 370  |
| DKFZ  | GTTACTATTAATTGTTTTTAAACACAGCTTAGGGATTAATGTCCTCCATTATATAATGAAGATTAAAAATGA                 |      |      |      |      |      |
|       | :: |      |      |      |      |      |
| II309 | GTTACTATTAATTGTTTT-AAAAACAGCTTAGGGATTAATGTCCTCCATTATATAATGAAGATTAAAAATGA                 |      |      |      |      |      |
| 1130  | 1140   | 1150 | 1160 | 1170 | 1180 |      |
| 380   | 390  | 400  | 410  | 420  | 430  | 440  |
| DKFZ  | AGGCTTTAATCAGCATTGTAAAGGAAATTGAATGGCTTTCTGATATGCTGTTTTTTAGCCCTAGGAGTTAG                  |      |      |      |      |      |
|       | :: |      |      |      |      |      |
| II309 | AGGCTTTAATCAGCATTGTAAAGGAAATTGAATGGCTTTCTGATATGCTGTTTTTTAGCCCTAGGAGTTAG                  |      |      |      |      |      |
| 1190  | 1200   | 1210 | 1220 | 1230 | 1240 | 1250 |

**Fig. 12H**

# LOC101926360

|      |            |            |            |            |            |                            |
|------|------------|------------|------------|------------|------------|----------------------------|
| 450  | 460        | 470        | 480        | 490        | 500        | 510                        |
| DKFZ | AAATCCTAAC | TTCTTTATC  | CTCTTCTCC  | CAGAGGCTTT | TTTTTCTTG  | TGTTAAACATTTTAA            |
|      | :::::::::: | :::::::::: | :::::::::: | :::::::::: | :::::::::: | ::::::::::                 |
| I309 | AAATCCTAAC | TTCTTTATC  | CTCTTCTCC  | CAGAGGCTTT | TTTTTCTTG  | TGTTAAACATTTTAA            |
| 1260 | 1270       | 1280       | 1290       | 1300       | 1310       | 1320                       |
| 520  | 530        | 540        | 550        | 560        | 570        | 580                        |
| DKFZ | AAAGCAGATA | TTTGTCAAG  | GGGCTTTG   | CAATTCAA   | ACTGCTTT   | TCCAGGGCTATACTCAGAAAGAGATA |
|      | :::::::::: | :::::::::: | :::::::::: | :::::::::: | :::::::::: | ::::::::::                 |
| I309 | AAAGCAGATA | TTTGTCAAG  | GGGCTTTG   | CAATTCAA   | ACTGCTTT   | TCCAGGGCTATACTCAGAAAGAGATA |
| 1330 | 1340       | 1350       | 1360       | 1370       | 1380       | 1390                       |
| 590  | 600        | 610        | 620        | 630        | 640        | 650                        |
| DKFZ | AAAGTGTGAT | CTAAGAAA   | AGTGATGG   | TTTAGGAA   | AGTGAAAA   | TATTTTGTATTGAGAAG          |
|      | :::::::::: | :::::::::: | :::::::::: | :::::::::: | :::::::::: | ::::::::::                 |
| I309 | AAAGTGTGAT | CTAAGAAA   | AGTGATGG   | TTTAGGAA   | AGTGAAAA   | TATTTTGTATTGAGAAG          |
| 1400 | 1410       | 1420       | 1430       | 1440       | 1450       | 1460                       |
| 660  | 670        | 680        | 690        | 700        | 710        | 720                        |
| DKFZ | AATGATGCAT | TTTGACAAG  | AAATCATAT  | ATGTATGG   | ATATATTT   | TAAAGTATTTGAGTACAGACTTGG   |
|      | :::::::::: | :::::::::: | :::::::::: | :::::::::: | :::::::::: | ::::::::::                 |
| I309 | AATGATGCAT | TTTGACAAG  | AAATCATAT  | ATGTATGG   | ATATATTT   | TAAAGTATTTGAGTACAGACTTGG   |
| 1470 | 1480       | 1490       | 1500       | 1510       | 1520       | 1530                       |

Fig. 12I

```

730      740      750      760      770      780      790
DKFZ AGGTTTCATCAATATAATAAAGAGCAGAAAAATATGTCTTGGTTTTCATTTGCTTACCAGAAAAACAA
      ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
I309 AGGTTTCATCAATATAATAAAGAGCAGAAAAATATGTCTTGGTTTTCATTTGCTTACCAGAAAAACAA
1540      1550      1560      1570      1580      1590      1600

      800      810      820      830      840      850      860
DKFZ CAACAAAAAAGTTGTCCTTTGAGAACTTCACCTGCTCCTATGTGGGTACCTGAGTCAAAATTGTCATTT
      ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
I309 CAACAAAAAAGTTGTCCTTTGAGAACTTCACCTGCTCCTATGTGGGTACCTGAGTCAAAATTGTCATTT
1610      1620      1630      1640      1650      1660      1670

      870      880      890      900      910      920      930
DKFZ TTGTTCTGGAATAAATTTCCTTCTTGTAACCATTTCTGTTAGTTTACTAAAAATCTGTAAATCTG
      ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
I309 TTGTTCTGGAATAAATTTCCTTCTTGTAACCATTTCTGTTAGTTTACTAAAAATCTGTAAATCTG
1680      1690      1700      1710      1720      1730      1740

      940      950      960      970      980      990      1000
DKFZ TATTTTCTGTTTATTCCAAATTTGATGAAACTGACAAATCCAATTTGAAAGTTTGTGTCGACGCTGTCT
      ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
I309 TATTTTCTGTTTATTCCAAATTTGATGAAACTGACAAATCCAATTTGAAAGTTTGTGTCGACGCTGTCT
1750      1760      1770      1780      1790      1800      1810

```

Fig. 12J

```

1010      1020      1030      1040      1050      1060      1070
DKFZ AGCTTAAATGAATGTGTTCTATTGCTTTTATACATTTATATAATAAATTGTACATTTTTCCTCAAAAAAAA
      ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
I309 AGCTTAAATGAATGTGTTCTATTGCTTTTATACATTTATATAATAAATTGTACATTTTTCCTCAAAAAAAA
1820      1830      1840      1850      1860      1870      1880

1080      1090
DKFZ AAAAAAAAAA-----
      ::::::::::::::
I309 AAAAAAAAAAAAAAAAAAAAAA
1890      1900

```

Fig. 12K

[illegible]

**Fig. 12L**

|        |  |       |       |       |       |       |       |
|--------|--|-------|-------|-------|-------|-------|-------|
|        | 260  | 270   | 280   | 290   | 300   | 310   | 320   |
| I309   | CTTTCATGATGGCCATCCTTGGCATGAAATGCACCAGGTGCACGGGGGACAAATGAGAAAGGTGAAGGCTCA |       |       |       |       |       |       |
|        | .....  | ..... | ..... | ..... | ..... | ..... | ..... |
| CLAUD8 | CTTTCATGACAGCCATCCTCGGAATGAAGTGCAACAGATGCACGGGGGACGATGAGAAACGTGAAGAGCCG  |       |       |       |       |       |       |
|        | 290  | 300   | 310   | 320   | 330   | 340   | 350   |
|        | 330  | 340   | 350   | 360   | 370   | 380   | 390   |
| I309   | CATTCTGCTGACGGCTGGAATCATCTTCATCATCACGGGCATGGTGGTCTCATCCCTGTGAGCTGGGTT    |       |       |       |       |       |       |
|        | ::: .....  | ..... | ..... | ..... | ..... | ..... | ..... |
| CLAUD8 | CATCTTGCTGACAGCCGGAATCATCTTCTTCATCACCGGCTTGGTTGTGCTCATCCCTGTGAGCTGGGTT   |       |       |       |       |       |       |
|        | 360  | 370   | 380   | 390   | 400   | 410   | 420   |
|        | 400  | 410   | 420   | 430   | 440   | 450   | 460   |
| I309   | GCCAATGCCATCATCAGAGATTCTATAACTCAATAGTGAATGTGCCCAAAAACGTGAGCTTGAGAAG      |       |       |       |       |       |       |
|        | .....  | ..... | ..... | ..... | ..... | ..... | ..... |
| CLAUD8 | GCCAATTCCATCATCAGAGACTTCTACAACCCACTGGTGGATGTGGCCCTAAAGCCGAGCTGGGAGAAG    |       |       |       |       |       |       |
|        | 430  | 440   | 450   | 460   | 470   | 480   | 490   |
|        | 470  | 480   | 490   | 500   | 510   | 520   | 530   |
| I309   | CTCTCTACTTAGGATGGACCAACGGCACTGGTGTCTGATTGTTGGAGGAGCTCTGTTCTGCTGCGTTTTTG  |       |       |       |       |       |       |
|        | :  | ..... | ..... | ..... | ..... | ..... | ..... |
| CLAUD8 | CCCTCTACATAGGCTGGACCAACAGCGCTGGTGTCTGATCGCTGGAGGAGCACTGTTCTGTGTGTTTTTG   |       |       |       |       |       |       |
|        | 500  | 510   | 520   | 530   | 540   | 550   | 560   |

Fig. 12M



```

540      550      560      570      580      590      600
I309 TTGCAACGAAAAGAGCAGTAGCTACAGATACTCGATACTTCCCATCGCACAAACCCAAAAGTTATCAC
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
CLAUD8 TTGTAAGGAGCAACAGTTACAGGTAACCGTACCATCCCATCGCACCACTCAACGGAGTTTCCAC
      570      580      590      600      610      620      630

      610      620      630      640      650      660      670
I309 ACCGGAAGAAGTCACCGAGCGTCTACTCCAGAAAGTCAGTATGTGTATGTTTTTAACTTT
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
CLAUD8 GCCGAAAAGAGATCTCCGAGCATATACTCCAAAAGTCAGTATGTGTAG-----
      640      650      660      670

      680      690      700      710      720      730      740
I309 ACTATAAGCCATGCAAAATGACAAAATCTATATTACTTTCTCAAAATGGACCCCAAGAAACTTTGATT
CLAUD8 -----

      750      760      770      780      790      800      810
I309 TACTGTTTAACTGCCTAAATCTTAATTACAGGAACTGTGCATCAGCTATTTATGATTTCTATAAGCTATT
CLAUD8 -----

```

Fig. 12N



# Sequence

```

1170      1180      1190      1200      1210      1220      1230
I 309 CCTCCATTATAATGAAGATTAAATGAAGGCTTTAATCAGCATTGTAAAGGAAATTGAATGGCTTTCTG
CLAUD8 -----

1240      1250      1260      1270      1280      1290      1300
I 309 ATATGCTGTTTTTAGCCTAGGAGTTAGAAATCCTAACTTCTTTATCCTCTCTCCAGAGGCTTTTTT
CLAUD8 -----

1310      1320      1330      1340      1350      1360      1370
I 309 TTCTTGATATAAATTAACATTTTAAAGAGCAGATATTTGTCAAGGGGCTTGCATTCAAACGCTT
CLAUD8 -----

1380      1390      1400      1410      1420      1430      1440
I 309 TTCCAGGGCTATACTCAGAAAGATAAAAGTGTGATCTAAGAAAAAGTGATGGTTTAGGAAAGTGAA
CLAUD8 -----

```

**Fig. 12P**



CCF000000000

1800 1810 1820 1830 1840 1850 1860  
I309 ATTTGAAAGTTTGTGTCGACGCTGTCTAGCTTAAATGAATGTGTTCTATTGCTTTATACATTATATTT

CLAUD8 -----

I309 AATAAATTGTACATTTTCTAAAAAATAAAAAAATAAAAAAATAAAAAA

CLAUD8 -----

Fig. 12R

|        |  |     |     |     |     |     |     |     |
|--------|--|-----|-----|-----|-----|-----|-----|-----|
| CLAUD8 | MATYALQMAALVLGGVGMVGTVAVTIMPQWRVSAFIESNIVVFENRWEGLWMNCMRHANIRMQCKVYDSL | 10  | 20  | 30  | 40  | 50  | 60  | 70  |
| I309   | -----LFLGGVGMVGTVAVTMPQWRVSAFIENNI VVFENRWEGLWMNCVRQANIRMQCKIYDSL      | 10  | 20  | 30  | 40  | 50  | 60  |     |
| CLAUD8 | LALSPDLQASRGLMCAASVLAFLAFMTAILGMKCTRCTGDDENVKSRILLTAGIIFITGLVVLIPVSWV  | 80  | 90  | 100 | 110 | 120 | 130 | 140 |
| I309   | LALSPDLQAARGLMCAASVMSFLAFMMAILGMKCTRCTGDNEKVKAHILLTAGIIFIITGMVVLIPVSWV | 70  | 80  | 90  | 100 | 110 | 120 | 130 |
| CLAUD8 | ANSIIRDFYNPLVDVALKRELGEALYIGWTTALVLIAGGALFCCVCCCTERSNSYRYSVPSHRTTQRSEH | 150 | 160 | 170 | 180 | 190 | 200 | 210 |
| I309   | ANAIIRDFYNSIVNVAQKRELGEALYLGWTTALVLI VGGALFCCVCCNEKSSSYRYSIPSHRTTQKSYH | 140 | 150 | 160 | 170 | 180 | 190 | 200 |
| CLAUD8 | AEKRSPSIYSKSQYV  | 220 |     |     |     |     |     |     |
| I309   | TGKKSPSVYSRSQYV  | 210 |     |     |     |     |     |     |

Fig. 12S

```

I309 .....LFLGGVMGTVAVTMPQWRVSAFIENNIVVFENFWEGL 40
hCPE MASMGLQVMGIALAVLGWLAVMLCCALPMWRVTAFIGSNIVTSQTIWEGL 50
mCPE MASMGLQVLIGISLAVLGWLGIIILSCALPMWRVTAFIGSNIVTAQTSWEGL 50
rRPV .MSMSLEITGTS LAVLGWLCTIVCCALPMWRVSAFIGSSIIITAQITWEGL 49

I309 WMNCVRQANIRMQCKIYDSSLALSPDLQAARGLMCAASVMSFLAFMMAIL 90
hCPE WMNCVVQSTGQMCKVYDSSLALPQDLQAARALVISIIVAALGVLLSVV 100
mCPE WMNCVVQSTGQMCKMYDMLALPQDLQAARALMVISIIVGALGMLLSVV 100
rRPV WMNCV.QSTGQMCKMYDSSLALPQDLQAARALIVVSILAAFGLLVALV 98

I309 GMKCTRCTGDNEKVKAHILLTAGIIFIITGMVVLIPVSWVANAIIRDFYN 140
hCPE GGKCTNCLD.ESAKAKTMIVAGVVFLLAGLMVIVPVSWTAHNI IQDFYN 149
mCPE GGKCTNCMED.ETVKAKIMITAGAVFIVASMLIMVPVSWTAHNVIRDFYN 149
rRPV GAQCTNCVQD.ETAKAKITIVAGVLFLLAAVLTLPVSVSANTIIIRDFYN 147

I309 SIVNVAQKRELGEALYLGWTTALVLI VGGALFCCVFCCKNEKSSSYRYSIP 190
hCPE PLVASGQKREMGASLYVGWAAAGLLLLGGGLLCC.NCPRTDKPYSAKYS 198
mCPE PMVASGQKREMGASLYVGWAAAGLLLLGGGLLCCSCPPRNDKPYSAKYS 199
rRPV PLVPEAQKREMGTLGYVGWAAALQLLGGALLCCSCPPREKYAPT KILYS 197

I309 SHRTTQKSYHTGKKSPSVYSRSQYV 215
hCPE AARSAASNYV..... 209
mCPE AARSVPASNYV..... 210
rRPV APRSTGPGTGTAYDRKTTSERPGARTPHHHHYQPSMYPTRPACSLASET 248

```

Fig. 12T

# Figure 13A

|   |     |
|---|-----|
| CGAGCGGCCCGCCGAGGTCAGACATGGGCCAAGGAGCCAGAGGCCGTCGCGGGGTCTGTGAGTTGAGCTTGAGGCCG   | 79  |
| M R V I M G I A S L G F L W A V F L   | 18  |
| CAGG ATG AGG GTC ATC ATG GGG ATA GCC AGC CTG GGG TTC CTC TGG GCA GTA TTC CTG    | 137 |
| L P L V F G V P T E E T T F G E S V A S   | 38  |
| CTT CCT CTT GTG TTT GGG GTC CCC ACA GAG GAG ACT ACC TTT GGA GAA TCT GTG GCC TCC | 197 |
| H L P K G C R R C C D P E D L M S S D D   | 58  |
| CAT CTC CCC AAA GGC TGT CGA CGA TGC TGT GAC CCC GAG GAC CTG ATG TCC TCT GAT GAT | 257 |
| T V Q A P V S P Y V L P E V R P Y L G R   | 78  |
| ACG GTC CAG GCC CCT GTT TCC CCT TAT GTC CTG CCT GAA GTC AGG CCG TAC CTC GGC CGC | 317 |
| D H   | 80  |
| GAC CAC   | 323 |

124/361

Fig. 13A



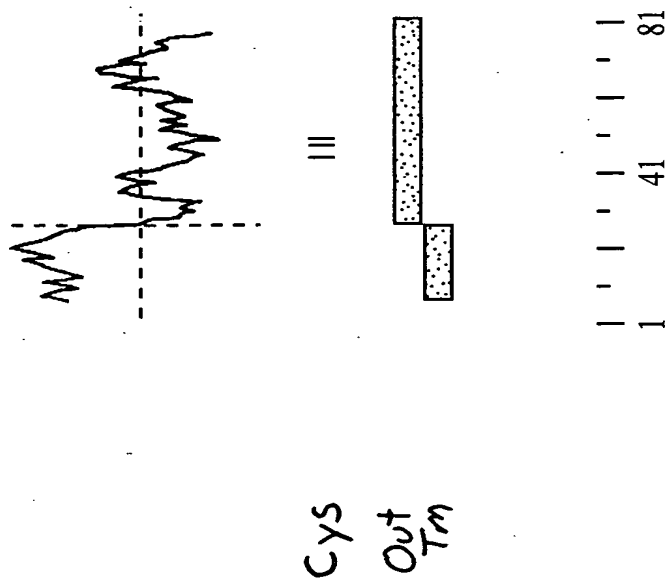


FIG. 13B

CGGACGCGTGGCGGACGCGTGGGTTATTCTTTGGTTAGGTATAATATGGGCATTAAACACACCCAGTTT 79  
M E F L Y R I V V G F I L I F T 16  
TGTAAGTATGAA TTC TTA TAT AGG ATT GTT GGT GGA TTC ATT CTT ATC TTT ACA 142  
F F N I K G Q N T K C P M S C Y Y I V R 36  
TTT TTT AAT ATT AAG GGA CAG AAT ACC AAG TGT CCA ATG TCT TGT TAT TAT ATT GTT AGG 202  
V L G T L G I L T V F W V C P L T I F N 56  
GTA CTG GGC ACT TTG GGG ATA TTG ACT GTA TTC TGG GTT TGC CCC CTC ACT ATT TTT AAT 262  
P D Y F I P I S I T I V L T L L G I L 76  
CCA GAC TAT TTT ATA CCT ATC AGT ATA ACT ATA GTT CTT ACT CTT CTT GGA ATT CTT 322  
F L I V Y Y G S F H P N R S A E T K C D 96  
TTT CTT ATT GTT TAT TAT GGG AGT TTT CAC CCA AAC AGA AGT GCA GAA ACA AAA TGT GAT 382  
E I D G K P V L R E C R M R Y F L M E \* 115  
GAA ATT GAT GGA AAA CCA GTT CTA AGA GAA TGT AGA ATG AGA TAT TTC CTA ATG GAA TAA 442  
GCTATTCATTATGATATATATTTCTTATATTTTGTTCATTGGTTAGTAAAGAAATGTGTGTTAAAAA 521  
AAAAA 546

Fig. 14A

DEPTO DE FISIOL

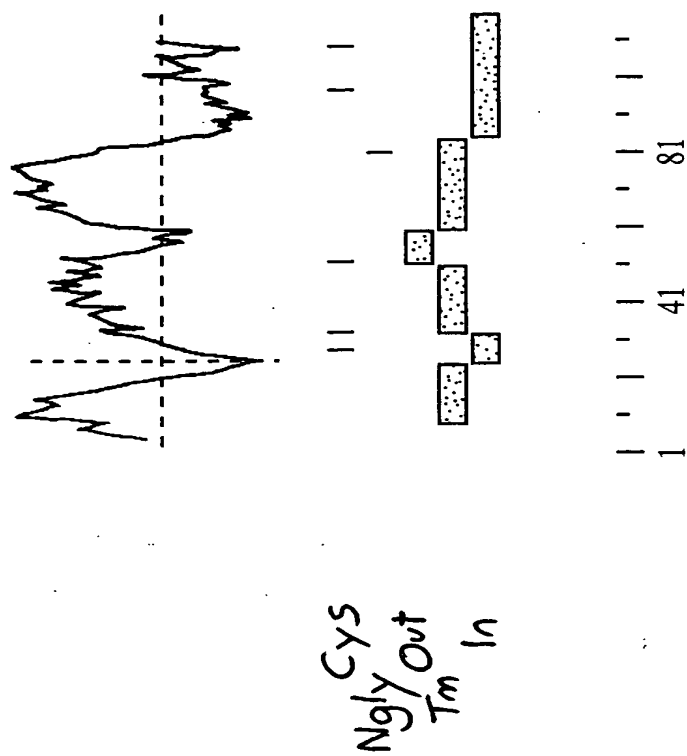


FIG. 14B

# GENE DEFECTION

|   |     |     |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| CGGACGCGGTGGCGGACGCGTGGCAGCTGAAGAAAGAGAGGA  | ATG | AAG | CGC | CTT | CTG | CTT | CTG | CTT | CTG | TTT | 8   |
| L F F I T F S S A F P L V R M T E N E E   |     |     |     |     |     |     |     |     |     |     | 28  |
| TTG TTC TTT ATA ACA TTT TCT TCT TCT GCA TTT CCC TTA GTC CGG ATG ACG GAA AAT GAA GAA |     |     |     |     |     |     |     |     |     |     | 128 |
| N M Q L A Q A Y L N Q F Y S L E I E G N   |     |     |     |     |     |     |     |     |     |     | 48  |
| AAT ATG CAA CTG GCT CAG GCA TAT CTC AAC CAG TTC TAC TCT CTT GAA ATA GAA GGG AAT     |     |     |     |     |     |     |     |     |     |     | 188 |
| H L V Q S K N R S L I D D K I R E M Q A   |     |     |     |     |     |     |     |     |     |     | 68  |
| CAT CTT GTT CAA AGC AAG AAT AGG AGT CTC ATA GAT GAC AAA ATT CGG GAA ATG CAA GCA     |     |     |     |     |     |     |     |     |     |     | 248 |
| F F G L T V T G K L D S N T L E I M K T   |     |     |     |     |     |     |     |     |     |     | 88  |
| TTT TTT GGA TTG ACA GTG ACT GGA AAA CTG GAC TCA AAC ACC CTT GAG ATC ATG AAG ACA     |     |     |     |     |     |     |     |     |     |     | 308 |
| P R C G V P D V G Q Y G Y T L P G W R K   |     |     |     |     |     |     |     |     |     |     | 108 |
| CCC AGG TGT GGG GTG CCT GAT GTG GGC CAG TAT GGC TAC ACC CTC CCT GGG TGG AGA AAA     |     |     |     |     |     |     |     |     |     |     | 368 |
| Y N L T Y R I I N Y T P D M A R A A V D   |     |     |     |     |     |     |     |     |     |     | 128 |
| TAC AAC CTC ACC TAC AGA ATA ATA AAC TAT ACT CCG GAT ATG GCA CGA GCT GCT GTG GAT     |     |     |     |     |     |     |     |     |     |     | 428 |
| E A I Q E G L E V W S K V T P L K F T K   |     |     |     |     |     |     |     |     |     |     | 148 |
| GAG GCT ATC CAA GAA GGT TTA GAA GTG TGG AGC AAA GTC ACT CCA CTA AAA TTC ACC AAG     |     |     |     |     |     |     |     |     |     |     | 488 |

Fig. 15A

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| I   | S   | K   | G   | I   | A   | D   | I   | M   | I   | A   | F   | R   | T   | R   | V   | H   | G   | R   | C   | 168 |
| ATT | TCA | AAG | GGG | ATT | GCA | GAC | ATC | ATG | ATT | GCC | TTT | AGG | ACT | CGA | GTC | CAT | GGT | CGG | TGT | 548 |
| P   | R   | Y   | F   | D   | G   | P   | L   | G   | V   | L   | G   | H   | A   | F   | P   | P   | G   | P   | G   | 188 |
| CCT | CGC | TAT | TTT | GAT | GGT | CCC | TTG | GGA | GTG | CTT | GGC | CAT | GCC | TTT | CCT | CCT | GGT | CCG | GGT | 608 |
| L   | G   | G   | D   | T   | H   | F   | D   | E   | D   | E   | N   | W   | T   | K   | D   | G   | A   | G   | F   | 208 |
| CTG | GGT | GGT | GAC | ACT | CAT | TTT | GAT | GAG | GAT | GAA | AAC | TGG | ACC | AAG | GAT | GGA | GCA | GGA | TTC | 668 |
| N   | L   | F   | L   | V   | A   | A   | H   | E   | F   | G   | H   | A   | L   | G   | L   | S   | H   | S   | N   | 228 |
| AAC | TTG | TTT | CTT | GTG | GCT | GCT | CAT | GAA | TTT | GGT | CAT | GCA | CTG | GGG | CTC | TCT | CAC | TCC | AAT | 728 |
| D   | Q   | T   | A   | L   | M   | F   | P   | N   | Y   | V   | S   | L   | D   | P   | R   | K   | Y   | P   | L   | 248 |
| GAT | CAA | ACA | GCC | TTG | ATG | TTC | CCA | AAT | TAT | GTC | TCC | CTG | GAT | CCC | AGA | AAA | TAC | CCA | CTT | 788 |
| S   | Q   | D   | D   | I   | N   | G   | I   | Q   | S   | I   | Y   | G   | G   | L   | P   | K   | V   | P   | A   | 268 |
| TCT | CAG | GAT | GAT | ATC | AAT | GGA | ATC | CAG | TCC | ATC | TAT | GGA | GGT | CTG | CCT | AAG | GTA | CCT | GCT | 848 |
| K   | P   | K   | E   | P   | T   | I   | P   | H   | A   | C   | D   | P   | D   | L   | T   | F   | D   | A   | I   | 288 |
| AAG | CCA | AAG | GAA | CCC | ACT | ATA | CCC | CAT | GCC | TGT | GAC | CCT | GAC | TTG | ACT | TTT | GAC | GCT | ATC | 908 |
| T   | T   | F   | R   | R   | E   | V   | M   | F   | F   | K   | G   | R   | H   | L   | W   | R   | I   | Y   | Y   | 308 |
| ACA | ACT | TTC | CGC | AGA | GAA | GTA | ATG | TTC | TTT | AAA | GGC | AGG | CAC | CTA | TGG | AGG | ATC | TAT | TAT | 968 |

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Fig. 15B

D I T D V E F E L I A S F W P S L P A D 328  
GAT ATC ACG GAT GTT GAG TTT GAA TTA ATT GCT TCA TTC TGG CCA TCT CTG CCA GCT GAT 1028

L Q A A Y E N P R D K I L V F K D E N F 348  
CTG CAA GCT GCA TAC GAG AAC CCC AGA GAT AAG ATT CTG GTT TTT AAA GAT GAA AAC TTC 1088

W M I R G Y A V L P D Y P K S I H T L G 368  
TGG ATG ATC AGA GGA TAT GCT GTC TTG CCA GAT TAT CCC AAA TCC ATC CAT ACA TTA GGT 1148

F P G R V K K I D A A V C D K T T R K T 388  
TTT CCA GGA CGT GTG AAG AAA ATA GAT GCA GCC GTC TGT GAT AAG ACC ACA AGA AAA ACC 1208

Y F F V G I W C W R F D E M T Q T M D K 408  
TAC TTC TTT GTG GGC ATT TGG TGC TGG AGG TTT GAT GAA ATG ACC CAA ACC ATG GAC AAA 1268

G F P Q R V V K H F P G I S I R V D A A 428  
GGA TTC CCG CAG AGA GTG GTA AAA CAC TTT CCT GGA ATC AGT ATC CGT GTT GAT GCT GCT 1328

F Q Y K G G F F F S R G S K Q F E Y N I 448  
TTC CAG TAC AAA GGA TTC TTC TTT TTC AGC CGT GGA TCA AAG CAA TTT GAA TAC AAC ATT 1388

K T K N I T R I M R T N T W F Q C K E P 468  
AAG ACA AAG AAT ATT ACC CGA ATC ATG AGA ACT AAT ACT TGG TTT CAA TGC AAA GAA CCA 1448

Fig. 15C

# SEQUENCE

|   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| K   | N   | S   | S   | F   | G   | F   | D   | I   | N   | K   | E   | K   | A   | H   | S   | G   | G   | I   | K   | 488  |
| AAG   | AAC | TCC | TCA | TTT | GGT | TTT | GAT | ATC | AAC | AAG | GAA | AAA | GCA | CAT | TCA | GGA | GGC | ATA | AAG | 1508 |
| I   | L   | Y   | H   | K   | S   | L   | S   | L   | F   | I   | F   | G   | I   | V   | H   | L   | L   | K   | N   | 508  |
| ATA   | TTG | TAT | CAT | AAG | AGT | TTA | AGC | TTG | TTT | ATT | TTT | GGT | ATT | GTT | CAT | TTG | CTG | AAA | AAC | 1568 |
| T   | S   | I   | Y   | Q   | *   |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 514  |
| ACT   | TCT | ATT | TAT | CAA | TAA |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1586 |
| ATTCATAGACCTAAATAAACCTCAACAGGTCCTTTTAATATAAATTCTGCTTCAAAAATAGAAATAAAACCATTCCTTAAC |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1665 |
| AACAAAAAATAAAAAA  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1684 |

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Fig. 15D

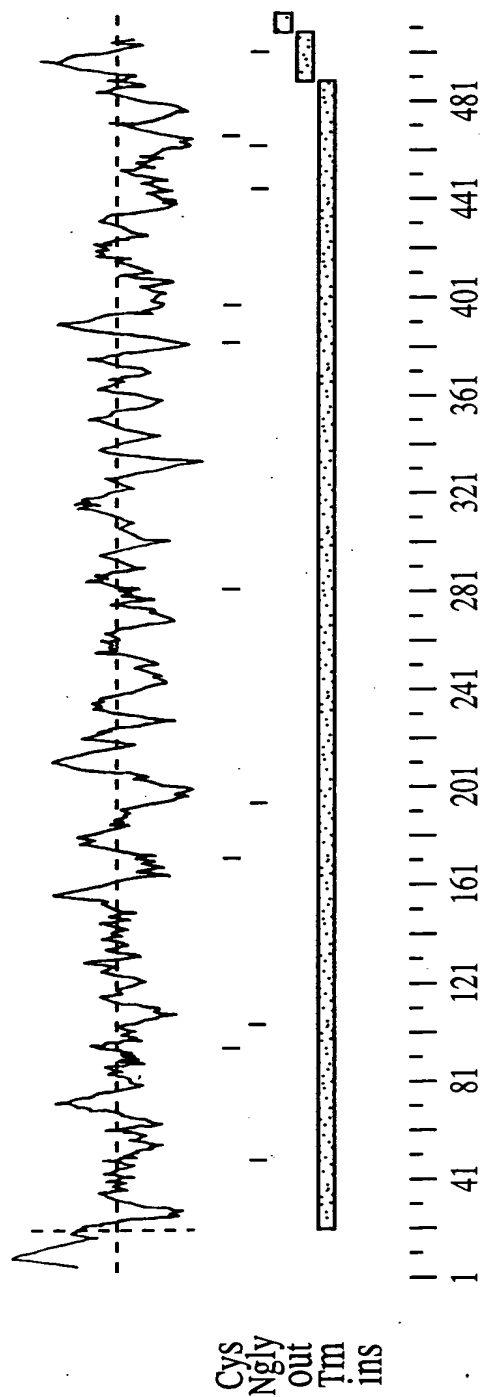


FIG. 15E



|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |     |     |     |     |     |     |     |     |     |     |     |     |         |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|
| GCTTTAACTGAAGAGACAGGA   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | ATG | AAG | TGC | CTT | CTG | TCT | CTG | ATG | GTT | AAT | TTT | ATA | ACA | 13      |
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |     |     |     |     |     |     |     |     |     |     |     |     | 60      |
| L   | S | A | A | F | P | P | D | R | K | D | K | N | E | E | N | N | Q | L | A   | 33  |     |     |     |     |     |     |     |     |     |     |     |         |
| CTT TCC GCT GCA TTT CCT CCA GAC GAC AAG AAG GAC AAA AAT GAG GAG AAC AAC CAA CTG GCC |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 120 |     |     |     |     |     |     |     |     |     |     |     |     |         |
| Q   | A | Y | L | N | Q | F | Y | S | L | E | I | E | G | S | H | F | V | Q | S   | 53  |     |     |     |     |     |     |     |     |     |     |     |         |
| CAG GCA TAT CTC AAC CAG TTC TAC TCT TCT GAA ATA GAA GGG AGT CAT TTT GTC CAA AGC     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 180 |     |     |     |     |     |     |     |     |     |     |     |     |         |
| K   | N | R | S | L | F | D | G | K | L | R | E | M | Q | A | F | F | G | L | T   | 73  |     |     |     |     |     |     |     |     |     |     |     |         |
| AAG AAC AGG AGT CTC TTT GAT GGA AAA CTT CGG GAA ATG CAG GCA TTT TTC GGA TTG ACA     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 240 |     |     |     |     |     |     |     |     |     |     |     |     |         |
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |     |     |     |     |     |     |     |     |     |     |     |     | 133/361 |
| V   | T | G | K | L | D | S | D | T | L | A | I | M | K | V | P | R | C | G | V   | 93  |     |     |     |     |     |     |     |     |     |     |     |         |
| GTG ACT GGA AAA CTG GAT TCA GAC ACA CTT GCG ATC ATG AAA GTG CCC AGG TGT GGG GTA     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 300 |     |     |     |     |     |     |     |     |     |     |     |     |         |
| P   | D | V | G | Q | Y | G | Y | T | L | P | G | W | R | K | Y | S | L | T | Y   | 113 |     |     |     |     |     |     |     |     |     |     |     |         |
| CCA GAT GTG GGG CAA TAT GGC TAC ACA CTC CCT GGG TGG AGA AAA TAC AGC CTT ACA TAC     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 360 |     |     |     |     |     |     |     |     |     |     |     |     |         |
| R   | I | M | N | Y | T | P | D | M | T | P | A | D | V | D | E | A | I | Q | K   | 133 |     |     |     |     |     |     |     |     |     |     |     |         |
| AGA ATA ATG AAC TAT ACT CCT GAT ATG ACA CCA GCT GAT GTG GAT GAG GCT ATT CAG AAA     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 420 |     |     |     |     |     |     |     |     |     |     |     |     |         |
| A   | L | Q | V | W | S | K | V | T | P | L | T | F | T | R | I | S | K | G | V   | 153 |     |     |     |     |     |     |     |     |     |     |     |         |
| GCT CTA CAA GTT TGG AGC AAG GTC ACT ACT CCA CTG ACG TTT ACC AGG ATA TCC AAG GGG GTT |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 480 |     |     |     |     |     |     |     |     |     |     |     |     |         |

Fig. 15F

# Table 10

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |         |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|
| A   | D   | I   | M   | I   | A   | F   | R   | T   | G   | V   | H   | G   | W   | C   | P   | R   | H   | F   | D   | 173     |
| GCA | GAT | ATA | ATG | ATA | GCA | TTC | AGG | ACA | GGA | GTC | CAT | GGC | TGG | TGT | CCT | CGT | CAC | TTT | GAT | 540     |
| G   | P   | L   | G   | V   | L   | G   | H   | A   | F   | P   | P   | G   | L   | G   | L   | G   | G   | D   | T   | 193     |
| GGT | CCT | CTG | GGA | GTC | CTT | GGC | CAT | GCC | TTT | CCT | CCT | GGT | CTG | GGT | CTA | GGT | GGT | GAC | ACT | 600     |
| H   | F   | D   | E   | D   | E   | T   | W   | I   | A   | K   | D   | G   | E   | G   | F   | N   | L   | F   | L   | 213     |
| CAC | TTT | GAC | GAA | GAT | GAA | ACA | TGG | ATA | GCC | AAG | GAT | GGG | GAA | GGG | TTC | AAC | TTG | TTT | CTT | 660     |
| V   | A   | A   | H   | E   | F   | G   | H   | S   | L   | G   | L   | S   | H   | S   | N   | D   | Q   | T   | A   | 233     |
| GTG | GCT | GCT | CAT | GAA | TTT | GGT | CAC | TCT | CTG | GGG | CTG | TCC | CAC | TCC | AAT | GAT | CAA | ACA | GCC | 720     |
| L   | M   | F   | P   | N   | Y   | I   | S   | L   | D   | P   | S   | K   | Y   | P   | L   | S   | Q   | D   | D   | 134/253 |
| TTG | ATG | TTC | CCC | AAT | TAC | ATC | TCC | CTG | GAT | CCT | AGC | AAA | TAC | CCA | CTT | TCT | CAG | GAT | GAT | 361/780 |
| I   | D   | G   | I   | Q   | S   | I   | Y   | G   | S   | P   | P   | K   | V   | T   | T   | K   | P   | S   | G   | 273     |
| ATT | GAT | GGG | ATC | CAG | TCC | ATC | TAT | GGA | AGT | CCA | CCT | AAG | GTA | ACC | ACC | AAG | CCA | AGT | GGA | 840     |
| N   | S   | E   | P   | H   | A   | C   | D   | P   | T   | L   | T   | F   | D   | A   | I   | T   | T   | F   | R   | 293     |
| AAT | TCT | GAA | CCC | CAC | GCC | TGT | GAC | CCC | ACC | TTG | ACT | TTT | GAT | GCT | ATC | ACT | ACT | TTC | CGC | 900     |
| R   | E   | V   | M   | F   | F   | K   | G   | R   |     |     |     |     |     |     |     |     |     |     |     | 302     |
| AGG | GAA | GTT | ATG | TTC | TTT | AAA | GGC | AGG |     |     |     |     |     |     |     |     |     |     |     | 927     |

Fig. 15G

# TABLE 6560

|   |      |
|---|------|
| TAAACCTATCCCTTGACACTCCAGCTTCTTATAAAGATGTTTTTTTTTCAAAGGATCTCCGGATAAACAGTCTTCTA   | 1007 |
| CTCAGCTAGAAAGCCAGTTGCTGAGCATGTACCATGATCAGCAAGAGATTCTTCTCAAGAAACAATGTAGAAACAA    | 1087 |
| TCAAAGAAAACACCCAAAGGCAACCTGCAGCTCCACACATAGCACACATGCAATTCACATGTATGCCCCACATATGTGA | 1167 |
| ACATGTAGGCACACATGCATGCATACCAACCAAACTTAAGACTGAAACATGCTGATGGACACAGGTACCAGGACA     | 1247 |
| TCATTGATGAAATATTTTGTGTTTAATGCAGG  | 1279 |
| H L W R V Y S D I A G A E F E F I D S F   | 322  |
| CAC TTA TGG AGG GTC TAC TCT GAT ATT GCT GGT GCT GAG TTT GAG TTT ATT GAT TCC TTC | 1339 |
| W P S L P A D L Q A A Y E S P R D E L L   | 342  |
| TGG CCA TCT CTG CCA GCT GAT CTT CAA GCT GCC TAT GAA AGC CCC AGA GAT GAG CTC CTT | 1399 |
| V F K D E N F W V I R G Y S V L P G Y P   | 1353 |
| GTT TTT AAA GAT GAG AAT TTC TGG GTC ATC AGG GGA TAT TCT GTC TTG CCC GGT TAC CCC | 1459 |
| K S I H T L G F P R R V K K I D A A V C   | 382  |
| AAA TCC ATC CAC ACA CTC GGA TTT CCA AGA CGT GTG AAG AAA ATT GAT GCA GCC GTC TGT | 1519 |
| D H D T R K T F F F V G I W C W R Y D E   | 402  |
| GAT CAT GAT ACA AGA AAA ACC TTC TTT TTT GGT GGC ATC TGG TGC TGG AGG TAT GAT GAG | 1579 |
| M A Q A M D R G F P Q R I I K C F P G I   | 422  |
| ATG GCA CAA GCA ATG GAC AGA GGA TTC CCA CAG AGG ATA ATA AAG TGC TTC CCA GGA ATT | 1639 |

Fig. 15H

# Figure 15I

|  |      |     |     |     |     |     |     |     |     |   |     |     |     |     |     |     |     |     |     |         |
|--|------|-----|-----|-----|-----|-----|-----|-----|-----|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|
| R  | L    | R   | V   | D   | A   | V   | F   | Q   | H   | N   | G   | F   | L   | Y   | F   | F   | H   | G   | S   | 442     |
| CGC  | CTC  | CGT | GTG | GAT | GCT | GTC | TTC | CAA | CAT | AAT                                       | GGA | TTC | CTC | TAT | TTC | TTC | CAT | GGG | TCG | 1699    |
| R  | Q    | F   | E   | Y   | D   | M   | K   | A   | K   | N   | I   | T   | Q   | V   | I   | K   | T   | N   | S   | 462     |
| AGG  | CAA  | TTT | GAA | TAT | GAC | ATG | AAG | GCG | AAA | AAT                                       | ATC | ACC | CAA | GTG | ATC | AAA | ACC | AAT | TCT | 1759    |
| W  | F    | L   | C   | N   | E   | P   | L   | N   | A   | S   | F   | N   | V   | S   | V   | K   | G   | K   | A   | 482     |
| TGG  | TTC  | CTG | TGT | AAC | GAA | CCA | TTA | AAC | GCA | TCA                                       | TTC | AAT | GTC | AGT | GTC | AAA | GGA | AAA | GCA | 1819    |
| N  | S    | I   | G   | T   | V   | I   | L   | H   | H   | K   | R   | L   | S   | L   | L   | T   | F   | S   | I   | 502     |
| AAT  | TCA  | ATT | GGC | ACA | GTG | ATA | TTA | CAT | CAT | AAA                                       | AGG | TTA | AGC | TTG | CTC | ACT | TTC | AGT | ATT | 1879    |
| V  | H    | V   | L   | T   | K   | T   | Y   | N   | *   |   |     |     |     |     |     |     |     |     |     | 136/361 |
| GTT  | CAT  | GTG | CTG | ACA | AAA | ACA | TAC | AAT | TAA | CAATAAAATTCACAAATAAAACCAAAACAAATCTTTTAACC |     |     |     |     |     |     |     |     | 511 |         |
| TGAACTCTGCCTCAGGAAGACTCAAGAGTGGGAGAGATGACCCAGTGGTTAAGTGCACTGGCTGCTCTTTCAAGGACCC  | 2029 |     |     |     |     |     |     |     |     |   |     |     |     |     |     |     |     |     |     |         |
| AGGTTTGATTCAGTACCCACATGGCAGTCCACAGCTCTCTGTAACTCCAGACCCAGGAAATCTGATGCCCTCTCTGG    | 2109 |     |     |     |     |     |     |     |     |   |     |     |     |     |     |     |     |     |     |         |
| CCTCTGAGGGCACTGCACAAGCATGGTGCATAGACATATACATGCAAGCAACGGCTATATATTTAAATAAAATGAAAA   | 2189 |     |     |     |     |     |     |     |     |   |     |     |     |     |     |     |     |     |     |         |
| AGTAAATAAATTGAGCCCAATTCTTTAGCATCAAGTTCTTACTCTACTATATATCAGCTGGGTAACCAATAACCAAGTTA | 2269 |     |     |     |     |     |     |     |     |   |     |     |     |     |     |     |     |     |     |         |
| AAGTATCTGATTCTTAACAGTGAAGTTTAAATATGACAAAAATCTCTCACTTATTTTGAGTCTAATTAATGATTGC     | 2349 |     |     |     |     |     |     |     |     |   |     |     |     |     |     |     |     |     |     |         |
| AAACTTGGAAAAATTAAAGCATGTCTTTAAAAATAAACATTAAAGACAAATCTTAAATCCAAAAAATAAAAAAATAAAAA | 2429 |     |     |     |     |     |     |     |     |   |     |     |     |     |     |     |     |     |     |         |
| AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA   | 2467 |     |     |     |     |     |     |     |     |   |     |     |     |     |     |     |     |     |     |         |

Fig. 15I



# Sequence

|        |   |     |     |     |     |     |     |     |
|--------|---|-----|-----|-----|-----|-----|-----|-----|
| human  | MKRLLLFLFFITFSSAFPLVRMTENEENMQLAQAYLNQFYSLIEGNHLVQSKNRSLIDDKI             | 10  | 20  | 30  | 40  | 50  | 60  |     |
| murine | MKCLLSLMVNFITLSAAFPDRKDKNEENNQLAQAYLNQFYSLIEGSHFVQSKNRSLFDGKL             | 10  | 20  | 30  | 40  | 50  | 60  |     |
| human  | REMQAFFGLTVTGKLDSENTLEIMKTPRCGVPDVGGYGTLPGWRKYNLTIRIINYTPDMARAAVDEAIQE    | 70  | 80  | 90  | 100 | 110 | 120 | 130 |
| murine | REMQAFFGLTVTGKLDSDTLAIMKVPRCGVPDVGGYGTLPGWRKYSLTIRIMNYTPDMTPADVDEAIOK     | 70  | 80  | 90  | 100 | 110 | 120 | 130 |
| human  | GLEVWSKVTPLKFTKISKGIADIMIAFRTRVHGRCPRYFDGPLGLVGHAFPPGPGGLGGDTHFDEDENW-T   | 140 | 150 | 160 | 170 | 180 | 190 | 200 |
| murine | ALQVWSKVTPLTFTTRISKGVADIMIAFRITGVHGWCPRHFDGPLGLVGHAFPPGPGGLGGDTHFDEDETWIA | 140 | 150 | 160 | 170 | 180 | 190 | 200 |
| human  | KDGAGFNFLVAAHFEGHALGLSHSNDQTALMFPNYSVSLDPRKYPLSQDDINGIQSIYGGGLPKVPAKPKE   | 210 | 220 | 230 | 240 | 250 | 260 | 270 |
| murine | KDGEGFNFLVAAHFEGHSLGLSHSNDQTALMFPNYSVSLDPRKYPLSQDDIDGIIQSIYGSPPKVTTKPSG   | 210 | 220 | 230 | 240 | 250 | 260 | 270 |

**Fig. 15K**

|        |                   |                   |                    |                     |          |     |     |
|--------|-------------------|-------------------|--------------------|---------------------|----------|-----|-----|
| human  | 280               | 290               | 300                | 310                 | 320      | 330 | 340 |
|        | PTIPHACDPDLTFDAIT | TFRREVMFFKGRHLWRI | YDITDVEFELIASFWPSL | PADLQAAYENPRDKILV   |          |     |     |
| murine | 280               | 290               | 300                | 310                 | 320      | 330 | 340 |
|        | NSEPHACDPDLTFDAIT | TFRREVMFFKGRHLWRI | YSDIAGAEFEFIDSWPSL | PADLQAAYESPRDELLV   |          |     |     |
| human  | 350               | 360               | 370                | 380                 | 390      | 400 | 410 |
|        | FKDENFWMIRGYAVLPD | YPKSIHTLGFPGRRVKK | IDAAVCDKTTTRKTYFF  | VGIWCWRFDEMTQTMDKGF | FPQ      |     |     |
| murine | 350               | 360               | 370                | 380                 | 390      | 400 | 410 |
|        | FKDENFWVIRGYSVLP  | GYPKSIHTLGFPPRRV  | KKIDAACDHDTRKTTFF  | VGIWCWRYDEMAQA      | MDRGRFPQ |     |     |
| human  | 420               | 430               | 440                | 450                 | 460      | 470 | 480 |
|        | RVVKHFPGISIRVDAA  | FQYKGFFFSRSGSKQF  | EYNIKTKNITRIMRTN   | TWFOCKEKNSSFGFDINKE | KA       |     |     |
| murine | 420               | 430               | 440                | 450                 | 460      | 470 | 480 |
|        | RIIKCFPGIRLRVDAV  | FQHNGFLYFFHGSRQF  | EYDMKAKNITQVIKTNS  | WFLCNEPLNASFNVS     | V-KGKA   |     |     |
| human  | 490               | 500               | 510                |                     |          |     |     |
|        | HSGGIKILYHKSLSLF  | IFGIVHLLKNTSIYQ   |                    |                     |          |     |     |
| murine | 490               | 500               | 510                |                     |          |     |     |
|        | NSIGTVILHHKRLSLL  | TFSIVHVLTKTYN     |                    |                     |          |     |     |

Fig. 15L

# Sequence

```

human  CGGACGCGTGGCGGACGCGTGGCAGCTGAAGAAAAGAGAGGAATGAAGCGCCTTCTGCTTCTGTTTT 10      20      30      40      50      60      70
murine  -----GCTTT-----AACTGAAGA--GACAGGAATGAAGTGCCTTCTGTCTCTGATGGT 10      20      30      40

human  GTTCTTTATAACATTTTCTTCTGCAATTTCCCTTAGTCCGGATGACGGAATAAAGAAAATATGCAACTG 80      90      100     110     120     130     140
murine  TAATTTATAACACTTCCGCTGCATTTCTCCAGACAGGAAGACAAAATGAGGAGAACACCAACTG 80      90      100     110

human  GCTCAGGCATATCTCAACCCAGTTCTACTCTCTTGAAAATAGAAGGGAATCATCTTGTTCAAAGCAAGAATA 150     160     170     180     190     200     210
murine  GCCCAGGCATATCTCAACCCAGTTCTACTCTCTTGAAAATAGAAGGAGTCAATTTGTCCAAAGCAAGAACA 120     130     140     150     160     170     180

human  GGAGTCTCATAGATGACAAAATTTCGGGAAATGCAAGCATTTTGTGGATTGACAGTGACTGGAAAACCTGGA 220     230     240     250     260     270     280
murine  GGAGTCTCTTTGATGGAAAACCTTCGGGAAATGCAGGCATTTTTCGGATTGACAGTGACTGGAAAACCTGGA 190     200     210     220     230     240     250

```

**Fig. 15M**



**Fig. 15N**

**Fig. 150**

FIGURE 15P

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840      850      860      870      880      890      900
human  AGGTACCTGCTAAGCCAAAGGAACCCACTATACCCCATGCCCTGTGACCCCTGACTTGACTTTTGACGCTAT
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
murine AGGTAACCAACCAAGCCAAGTGGAAATTCTGAACCCCAAGCCCTGTGACCCCACTTGACTTTTGATGCTAT
820      830      840      850      860      870      880

      910      920      930      940
human  CACAACCTTCCGCGAGAGAAAGTAATGTTCTTTAAAGGCAGG-----
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
murine CACTACTTTCGCGAGGAAGTTATGTTCTTTAAAGGCAGGTAACCTATTCCTTGACACTCCAGCTTCT
890      900      910      920      930      940      950

human  -----

murine TATAAAGATGTTTTTTTTTTTCAAAAGGATCTCCGGATAAACAGTCTTCTACTCAGCTAGAAAGCCAGTTG
960      970      980      990      1000      1010      1020

human  -----

murine CTGAGCATGTACCAGTACATCAGCAAGAGATTCTTCCCTCAAGAAACAATGTAGAAAAACAATCAAAAGAAAA
1030      1040      1050      1060      1070      1080      1090

```

Fig. 15P

|        |   |       |       |       |       |       |       |
|--------|---|-------|-------|-------|-------|-------|-------|
| human  | 1050  | 1060  | 1070  | 1080  | 1090  | 1100  | 1110  |
|        | GAACCCAGAGATAAGATTCTGGTTTTTAAAGATGAAAACTTCTGGATGATCAGAGGATATGCTCTTG         |       |       |       |       |       |       |
|        | .....   | ..... | ..... | ..... | ..... | ..... | ..... |
| murine | AAGCCCAAGAGATGAGCTCCTTGTGTTTTTAAAGATGAGAAATTTCTGGTCAATCAGGGGATATTTCTGCTCTTG |       |       |       |       |       |       |
|        | 1380  | 1390  | 1400  | 1410  | 1420  | 1430  | 1440  |
| human  | 1120  | 1130  | 1140  | 1150  | 1160  | 1170  | 1180  |
|        | CCAGATTATCCCAAATCCATCCATACATTAGGTTTTCCAGGACGTGTGAAGAAAAATAGATGCAGCCGTCT     |       |       |       |       |       |       |
|        | :: ::::   | ..... | :: :: | ..... | ..... | ..... | ..... |
| murine | CCCGGTTACCCCAAATCCATCCACACACTCGGATTTCCAAGACGTGTGAAGAAAAATTTGATGCAGCCGTCT    |       |       |       |       |       |       |
|        | 1450  | 1460  | 1470  | 1480  | 1490  | 1500  | 1510  |
| human  | 1190  | 1200  | 1210  | 1220  | 1230  | 1240  | 1250  |
|        | GTGATAAGACCACAAGAAAAACCTACTTCTTTGTGGGCATTTGGTGCTGGAGGTTTGATGAAATGACCCA      |       |       |       |       |       |       |
|        | :::: : .  | ..... | ::::  | ::::  | ::::  | ::::  | ::::  |
| murine | GTGATCATGATACAAAGAAAAACCTTCTTTTGTGGCATCTGGTGCTGGAGGTATGATGAGATGGCACA        |       |       |       |       |       |       |
|        | 1520  | 1530  | 1540  | 1550  | 1560  | 1570  | 1580  |
| human  | 1260  | 1270  | 1280  | 1290  | 1300  | 1310  | 1320  |
|        | AACCATGGACAAAGGATTCCCGCAGAGAGTGGTAAACACTTTCCTGGAATCAGTATCCGTGTTGATGCT       |       |       |       |       |       |       |
|        | :: ::::   | ..... | ..... | ..... | ::::  | ::::  | ::::  |
| murine | AGCAATGGACAGAGGATTCCCAAGAGGATAATAAAGTGCTTCCCAAGAAATTCGCCCTCCGTGTTGGATGCT    |       |       |       |       |       |       |
|        | 1590  | 1600  | 1610  | 1620  | 1630  | 1640  | 1650  |

Fig. 15R

**Fig. 15Q**

**Fig. 15Q**

**Fig. 15S**



```

1670
human TAACAACAA-----
      ::::::::::
murine TAGCATCAAGTTCTTACTCCTACTATATATCAGCTGGGTAACCAATAACCAAGTAAAGTATCTGATTCTT
      2220 2230 2240 2250 2260 2270 2280

human -----

murine CTAACAGTGAAGTTTAAATATGACAAAAATCTCTCACTTATTTTGAGTCTAATTAATGATTGCAAACT
      2290 2300 2310 2320 2330 2340 2350

human -----

murine TGGAAAATTAAAGCATGTCTTAAAAATAAACATTAAAGACAATTCTTAATCCAAAAAATAAAAAAA
      2360 2370 2380 2390 2400 2410 2420

human -----1680
      -----AAAAAAAAAAAA
      ::::::::::::::
murine AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
      2430 2440 2450 2460
```

Fig. 15U



**Fig. 15V**





|       |  |                            |     |     |     |     |     |     |     |
|-------|--|----------------------------|-----|-----|-----|-----|-----|-----|-----|
| 210   | TGTGGGGTGCCTGA-TGTGG-GCCAGTATGGCTACACCC----                            | TCCCTGGGTGGAGAAATACAACCTCA | 280 | 290 | 300 | 310 | 320 | 330 | 340 |
| MMP-8 | TGTGGAGTGCCTGACAGTGGTGGTTTATGTTAAACCCAGGAAACCCCAAGTGGGAACGCACCTAACTTGA |                            | 280 | 290 | 300 | 310 | 320 | 330 | 340 |
| 210   | CCTACAGAAATAAACTATACTCCGGATATGGCACGAGCTGCTGTGGATGAGGCTATCCAAGAAGGTTT   |                            | 340 | 350 | 360 | 370 | 380 | 390 | 400 |
| MMP-8 | CCTACAGGATTCGAAACTATACCCACAGCTGTCAAGAGGCTGAGGTAGAAAGAGCTATCAAGGATGCCTT |                            | 350 | 360 | 370 | 380 | 390 | 400 | 410 |
| 210   | AGAACTGTGGAGCAAAAGTCACTCCACTAAATTCACCAAGATTTCAAAGGGGATTGCAGACATCATGATT |                            | 410 | 420 | 430 | 440 | 450 | 460 | 470 |
| MMP-8 | TGAACCTCTGGAGTGTGTCATCACCTCTCATCTTCACCAAGGATCTCACAGGGAGGCAGATATCAACATT |                            | 420 | 430 | 440 | 450 | 460 | 470 | 480 |
| 210   | GCCTTTAGGACTCGAGTCCATGGTCGGTGTCTCGCTATTTTGATGTGCCCTTGGAGTGCTTGGCCATG   |                            | 480 | 490 | 500 | 510 | 520 | 530 | 540 |
| MMP-8 | GCTTTTACCAAGAGATCACGGTGACAATTCTC-CA--TTTGATGGACCCCAATGGAATCCTTGCTCATG  |                            | 490 | 500 | 510 | 520 | 530 | 540 |     |

**Fig. 15X-2**

[illegible]

**Fig. 15X-3**

**Fig. 15X-4**

```

1100      1110      1120      1130      1140      1150      1160
210 TAGGTTTCCAGGACGTGTGAAGAAATAGATGCAGCCGTCTGTGATAAGACCACAAGAAAACCTACTT
      :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: ::
MMP-8 ATGGCTTCCCAGCAGCGTCCAAGCAATTGACGCAGC-----TGTTTCTACAGAAGTAAACATACTT
      1110      1120      1130      1140      1150      1160

1170      1180      1190      1200      1210      1220      1230
210 CTTTGTGGGCATTTGGTGCTGGAGGTTTGATGAATGACCCAAACCATGGACAAAGGATTCCCGCAGAGA
      :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: ::
MMP-8 CTTTGTAATGACCAATTCTGGAGATATGAT-----AACCAAAGACAATT-----CATGGAGC
      1170      1180      1190      1200      1210

1240      1250      1260      1270      1280      1290      1300
210 GTGGTAAACACTTTCCTGGAATCAGTATCCGTGTTGATGCTGCTTCCAGTACAAAGGATTCTTCTTTT
      :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: ::
MMP-8 CAGGT-----TATCCCAAAGCA-TATC-----AGGTGC--CTTTCAGGAATAGAGAGTAAA-----
      1220      1230      1240      1250      1260

1310      1320      1330      1340      1350      1360      1370
210 TCAGCCGTGGATCAAAGCAATTGGAATACAAACATTAAAGACAAAGAATATTACCCGAATCATGAGAACTAA
      :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: ::
MMP-8 -----GTTGAT-----GCAGTTT---TCCAGCA-----AGAACATTTC---TTC-----
      1270      1280      1290      1300

```

Fig. 15X-5

```

1380      1390      1400      1410      1420      1430      1440
210 TACTTGGTTTCAATGCAAAAGAACCAAGAACTCCTCATTTGGTTTGTATATCAACAAGGAAAAGCACAT
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
MMP-8 --CATG---TC---TTCAGTGGACCAAGATATTACGCATTTGATCTT-ATTGCT-CAGAGAGTTA-C-----
      1310      1320      1330      1340      1350

1450      1460      1470      1480      1490      1500      1510
210 TCAGGAGGCATAAAGATATTGTATCATAAAGAGTTTAAGCTTGTATTATTTTGGTATTTGTTTCATTTGCTGA
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
MMP-8 -CAGA-----GTTGCAAGAG-----GCA-----ATAAATGG-----C-TTAACTGT
      1360      1370      1380      1390

1520      1530
210 AAAACACTTCTATTATCAA
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
MMP-8 AGA-----TATGGC--
      1400

```

Fig. 15X-6



|   |     |
|---|-----|
| GAAAAGCGTGGCCGAGGCCCGGGCCGGGGTGAGCGTGCCGAGCGGCTGTGGCGCAGGCTTCCAGCC              | 79  |
| M P W P L L L L L A V S G A Q T T R   | 18  |
| CCCACC ATG CCG TGG CCC CTG CTG CTG CTG GGC GTG AGT GGG GCC CAG ACA ACC CGG      | 139 |
| P C F P G C Q C E V E T F G L F D S F S   | 38  |
| CCA TGC TTC CCC GGG TGC CAA TGC GAG GTG GAG ACC TTC GGC CTT TTC GAC AGC TTC AGC | 199 |
| L T R V D C S G L G P H I M P V P I P L   | 58  |
| CTG ACT CGG GTG GAT TGT AGC GGC CTG GGC CCC CAC ATC ATG CCG GTG CCC ATC CCT CTG | 259 |
| D T A H L D L S S N R L E M V N E S V L   | 78  |
| GAC ACA GCC CAC TTG GAC CTG TCC AAC CGG CTG GAG ATG GTG AAT GAG TCG GTG TTG     | 319 |
| A G P G Y T T L A G L D L S H N L L T S   | 98  |
| GCG GGG CCG GGC TAC ACG ACG TTG GCT GGC CTG GAT CTC AGC CAC AAC CTG CTC ACC AGC | 379 |
| I S P T A F S R L R Y L E S L D L S H N   | 118 |
| ATC TCA CCC ACT GCC TTC TCC CGC CTT CGC TAC CTG GAG TCG CTT GAC CTC AGC CAC AAT | 439 |
| G L T A L P A E S F T S S P L S D V N L   | 138 |
| GGC CTG ACA GCC CTG CCA GCC GAG AGC TTC ACC AGC TCA CCC CTG AGC GAC GTG AAC CTT | 499 |

Fig. 16A

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| S   | H   | N   | Q   | L   | R   | E   | V   | S   | V   | S   | A   | F   | T   | T   | H   | S   | Q   | G   | R   | 158 |     |
| AGC | CAC | AAC | CAG | CTC | CGG | GAG | GTC | TCA | GTG | TCT | GCC | TTC | ACG | ACG | CAC | AGT | CAG | GGC | CGG | 559 |     |
| A   | L   | H   | V   | D   | L   | S   | H   | N   | L   | I   | H   | R   | L   | V   | P   | H   | P   | T   | R   | 178 |     |
| GCA | CTA | CAC | GTG | GAC | CTC | TCC | CAC | AAC | CTC | ATT | CAC | CGC | CTC | GTG | CCC | CAC | CCC | ACG | AGG | 619 |     |
| A   | G   | L   | P   | A   | P   | T   | I   | Q   | S   | L   | N   | L   | A   | W   | N   | R   | L   | H   | A   | 198 |     |
| GCC | GGC | CTG | CCT | GGC | CCC | ACC | ATT | CAG | AGC | CTG | AAC | CTG | GCC | TGG | AAC | CGG | CTC | CAT | GCC | 679 |     |
| V   | P   | N   | L   | R   | D   | L   | P   | L   | P   | R   | Y   | L   | S   | L   | D   | G   | N   | P   | L   | A   | 218 |
| GTG | CCC | AAC | CTC | CGA | GAC | TTG | CCC | CTG | CGC | TAC | CTG | AGC | CTG | GAT | GGG | AAC | CCT | CTA | GCT | 739 |     |
| V   | I   | G   | P   | G   | A   | F   | A   | G   | L   | G   | G   | L   | T   | H   | L   | S   | L   | A   | S   | 238 |     |
| GTC | ATT | GGT | CCG | GGT | GCC | TTC | GCG | GGG | CTG | GGA | GGC | CTT | ACA | CAC | CTG | TCT | CTG | GCC | AGC | 799 |     |
| L   | Q   | R   | L   | P   | E   | L   | A   | P   | S   | G   | F   | R   | E   | L   | P   | G   | L   | Q   | V   | 258 |     |
| CTG | CAG | AGG | CTC | CCT | GAG | CTG | GCG | CCC | AGT | GGC | TTC | CGT | GAG | CTA | CCG | GGC | CTG | CAG | GTC | 859 |     |
| L   | D   | L   | S   | G   | N   | P   | K   | L   | N   | W   | A   | G   | A   | E   | V   | F   | S   | G   | L   | 278 |     |
| CTG | GAC | CTG | TCG | GGC | AAC | CCC | AAG | CTT | AAC | TGG | GCA | GGA | GCT | GAG | GTG | TTT | TCA | GGC | CTG | 919 |     |
| S   | S   | L   | Q   | E   | L   | D   | L   | S   | G   | T   | N   | L   | V   | P   | L   | P   | E   | A   | L   | 298 |     |
| AGC | TCC | CTG | CAG | GAG | CTG | GAC | CTT | TCG | GGC | ACC | AAC | CTG | GTG | CCC | CTG | CCT | GAG | GCG | CTG | 979 |     |

Fig. 16B

L L H L P A L Q S V S V G Q D V R C R R 318  
 CTC CTC CAC CTC CCG GCA CTG CAG AGC GTC AGC GTG GGC CAG GAT GTG CGG TGC CGG CGC 1039  
  
 L V R E G T Y P R R P G S S P K V A L H 338  
 CTG GTG CGG GAG GGC ACC TAC CCC CGG AGG CCT GGC TCC AGC CCC AAG GTG GCC CTG CAC 1099  
  
 C V D T R E S A A R G P T I L \* 354  
 TGC GTA GAC ACC CGG GAA TCT GCT GCC AGG GGC CCC ACC ATC TTG TGA 1147  
  
 CAAATGTTGGCCAGGCCACATAACAGACTGCTGTCTGGCTGCTCAGGTCCCGAGTAACCTTATGTTCAATGTG 1226  
 CCAACACAGGGGAGCCCGCAGGCTATGTGGCAGCGTCACACAGGAGTTGTGGCCCTAGGAGAGGCTTTGGACCT 1305  
 GGGAGCCACACCTAGGAGCAAAGTCTCACCCCTTTGTCTACGTTGCTTCCCCAAACCATGAGCAGAGGGACTTCGATGC 1384  
 CAAACAGACTCGGGTCCCCTCCTGCTTCCCCTTATCCCCCAAGTGCCCTTCCCTCATGCTGGGCCGCCCTG 1463  
 ACCCGCAATGGGCAGAGGTGGGTGGGACCCCTGCTGCAGGGCAGAGTTCAAGTCCACTGGGCTGAGTGTCCCCCTGG 1542  
 GCCCATGGCCCACTCAGGGCGAGTTTCTTTCTAACATAGCCCTTCTTTGCCATGAGGCCATGAGGCCCGCTT 1621  
 CATCCTTTTCTATTTCCCTAGAACCTTAATGTAGAGGAATTGCAAGAATCAAGTCCACCCCTTCTCATGTGACAGAT 1700  
 GGGAAACTGAGGCCCTTGAGAAAGGAAAGGCTAATCTAAGTTCTCTAATAAGCCCAACCTCCCGCTGGGCTCCCTTGCTGC 1779  
 GCCTCCAGCCCGACCCCAATGCACCTTTCTGTCTCTAATAAGCCCAACCTCCCGCTGGGCTCCCTTGCTGC 1858  
 CCTTGCCTGTTCCCATTTAGCACAGGAGTAGCAGCAGGACAGGCAAGAGCCTCACAAAGTGGGACTCTGGGCCCTCTG 1937  
 ACCAGCTGTGGGCATGGGCTAAGTCACTCTGCCCTTCGGAGCCTCTGGAAGCTTAGGGCACATTTGGTTCCAGCCTAGC 2016  
 CAGTTTCTCACCCCTGGGTTCGCCCATCCAGCATCCAGACTGGAACCTACCCATTTTCCCTGAGCATCCTCTAGATG 2095  
 CTGCCCCAAGGAGTTGCTGCAGTTCTGGAGCCTCATCTGGCTGGATCTCCAAGGGCCCTCCTGGATTCAAGTCCCCACT 2174  
 GGCCCTGAGCACGACAGCCCTTCTTACCCTCCAGGAATGCCGTGAAAGGAGACAAGTCTGCCCGACCCATGTCTATG 2253

Fig. 16C

CTCTACCCAGGGCAGCATCTCAGCTTCCGAACCCCTGGGCTGTTTCCTTAGTCTTCAATTTATATAAAGTTGTGCCCTT 2332  
 TTTAACGGAGTGTCACCTTCAACCGGCTCCCTACCCCTGCTGCCGGGATGGAGACATGTCAATTTGTAAAGCAGA 2411  
 AAAAGTTGCATTTGTTCACTTTTGTAAATATTGTCCTGGCCCTGTGTTGGGTGTTGGGGAAGCTGGGCATCAGTGGC 2490  
 CACATGGGCATCAGGGGCTGGCCCCACAGAGACCCACAGGCAGTGAGCTCTGTCTTCCCCCACCTGCTAGCCCCATC 2569  
 ATCTATCTAACCGGTCCTTGATTTAATAAACACTATAAAAGTTAAAAAATAAAAAA 2628

Fig. 16D

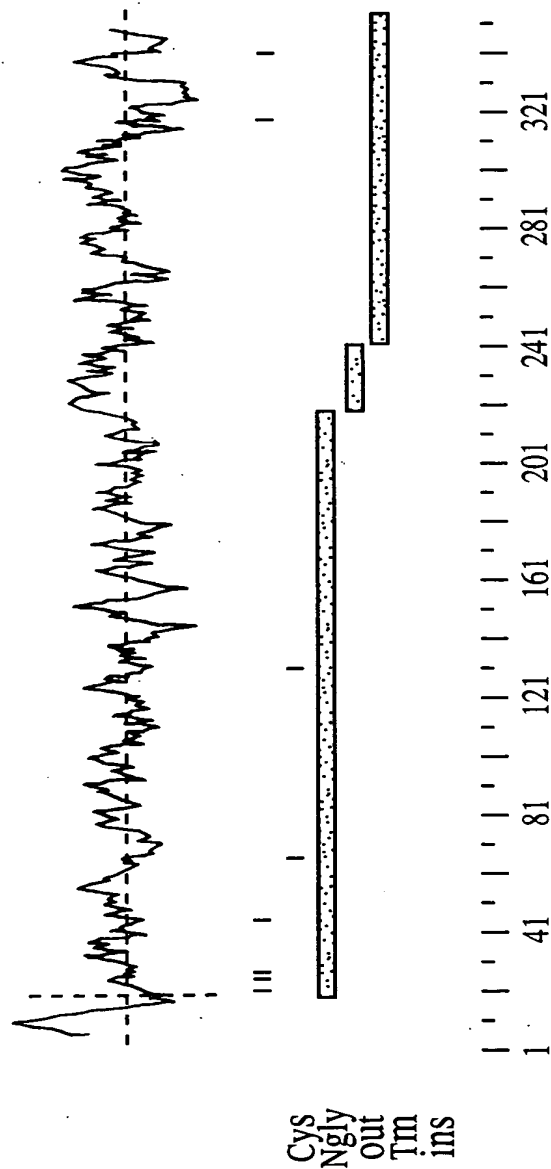


FIG. 16E

**Fig. 17A**

Q E V Q A R I V Q T Q K E H Q I C I H K 139  
CAA GAA GTG CAG GCC CGG ATC GTG CAG ACG CAG AAG GAG CAC CAG ATC TGC ATC CAC AAA 736

R E L T E L D I Y H R I L R F Q N Y M V 159  
CGT GAG CTG ACA GAA CTG GAC ATC TAC CAC CGC ATC CTC CGT TTC CAG AAC TAC ATG GTG 796

A L V N K S L L L P L R F R L P G L G E A 179  
GCA CTG GTT AAC AAA TCC CTC CTG CCT CTG CGC TTC CGC CTG CCT GGC CTC GGC GAA GCT 856

V F F T R G L K Y N F E L I L F W G P G 199  
GTC TTC TTC ACC CGT GGT CTC AAG TAC AAC TTT GAG CTG ATC CTC TTC TGG GGA CCT GGC 916

S L F L N E W S L K A E Y K R G Q R L 219  
TCT CTG TTT CTC AAT GAA TGG AGC CTC AAG GCC GAG TAC AAA CGT GGC GGC CAA CGG CTA 976

E L A Q R L S N R I L W I G I A N F L L 239  
GAG CTG GCC CAG CGC CTC AGC AAC CGC ATC CTG TGG ATT GGC ATC GCT AAC TTC CTG CTG 1036

C P L I L I W Q I L Y A F F S Y A E V L 259  
TGC CCC CTC ATC CTC ATA TGG CAA ATC CTC TAT GCC TTC TTC AGC TAT GCT GAG GTG CTG 1096

K R E P G A L G A R C W S L Y G R C Y L 279  
AAG CGG GAG CCG GGC GCC CTC GGA GCA CGC TGC TGG TCA CTC TAT GGC CGC TGC TAC CTC 1156

Fig. 17B

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| R   | H   | F   | N   | E   | L   | E   | H   | E   | L   | Q   | S   | R   | L   | N   | R   | G   | Y   | K   | P   | 299  |
| CGC | CAC | TTC | AAC | GAG | CTG | GAG | CAC | GAG | CTG | CAG | TCC | CGC | CTC | AAC | CGT | GGC | TAC | AAG | CCC | 1216 |
| A   | S   | K   | Y   | M   | N   | C   | F   | L   | S   | P   | L   | L   | T   | L   | L   | A   | K   | N   | G   | 319  |
| GCC | TCC | AAG | TAC | ATG | AAT | TGC | TTC | TTG | TCA | CCT | CTT | TTG | ACA | CTG | CTG | GCC | AAG | AAT | GGA | 1276 |
| A   | F   | F   | A   | G   | S   | I   | L   | A   | V   | L   | I   | A   | L   | T   | I   | Y   | D   | E   | D   | 339  |
| GCC | TTC | TTC | GCT | GGC | TCC | ATC | CTG | GCT | GTG | CTT | ATT | GCC | CTC | ACC | ATT | TAT | GAC | GAA | GAT | 1336 |
| V   | L   | A   | V   | E   | H   | V   | L   | T   | T   | V   | T   | L   | L   | G   | V   | T   | V   | T   | V   | 359  |
| GTG | TTG | GCT | GTG | GAA | CAT | GTG | CTG | ACC | ACC | GTC | ACA | CTC | CTG | GGG | GTC | ACC | GTG | ACC | GTG | 1396 |
| C   | R   | S   | F   | I   | P   | D   | Q   | H   | M   | V   | F   | C   | P   | E   | Q   | L   | L   | R   | V   | 379  |
| TGC | AGG | TCC | TTT | ATC | CCG | GAC | CAG | CAC | ATG | GTG | TTC | TGC | CCT | GAG | CAG | CTG | CTC | CGC | GTG | 1456 |
| I   | L   | A   | H   | I   | H   | Y   | M   | P   | D   | H   | W   | Q   | G   | N   | A   | H   | R   | S   | Q   | 399  |
| ATC | CTC | GCT | CAC | ATC | CAC | TAC | ATG | CCT | GAC | CAC | TGG | CAG | GGT | AAT | GCC | CAC | CGC | TCG | CAG | 1516 |
| T   | R   | D   | E   | F   | A   | Q   | L   | F   | Q   | Y   | K   | A   | V   | F   | I   | L   | E   | E   | L   | 419  |
| ACC | CGG | GAC | GAG | TTT | GCC | CAG | CTC | TTC | CAG | TAC | AAG | GCA | GTG | TTC | ATT | TTG | GAA | GAG | TTG | 1576 |
| L   | S   | P   | I   | V   | T   | P   | L   | I   | L   | I   | F   | C   | L   | R   | P   | R   | A   | L   | E   | 439  |
| CTG | AGC | CCC | ATT | GTC | ACA | CCC | CTC | ATC | CTC | ATC | TTC | TGC | CTG | CGC | CCA | CGG | GCC | CTG | GAG | 1636 |

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Fig. 17C



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| I   | I   | D   | F   | F   | R   | N   | F   | T   | V   | E   | V   | V   | G   | V   | G   | D   | T   | C   | S   | 459  |
| ATT | ATA | GAC | TTC | TTC | CGA | AAC | TTC | ACC | GTG | GAG | GTC | GTT | GGT | GTG | GGA | GAT | ACC | TGC | TCC | 1696 |
| F   | A   | Q   | M   | D   | V   | R   | Q   | H   | G   | H   | P   | Q   | W   | L   | S   | A   | G   | Q   | T   | 479  |
| TTT | GCT | CAG | ATG | GAT | GTT | CGC | CAG | CAT | GGT | CAT | CCC | CAG | TGG | CTA | TCT | GCT | GGG | CAG | ACA | 1756 |
| E   | A   | S   | V   | Y   | Q   | Q   | A   | E   | D   | G   | K   | T   | E   | L   | S   | L   | M   | H   | F   | 499  |
| GAG | GCC | TCA | GTG | TAC | CAG | CAA | GCT | GAG | GAT | GGA | AAG | ACA | GAG | TTG | TCA | CTC | ATG | CAC | TTT | 1816 |
| A   | I   | T   | N   | P   | G   | W   | Q   | P   | P   | R   | E   | S   | T   | A   | F   | L   | G   | F   | L   | 519  |
| GCC | ATC | ACC | AAC | CCT | GGC | TGG | CAG | CCA | CCA | CGT | GAG | AGC | ACA | GCC | TTC | CTA | GGC | TTC | CTC | 1876 |
| K   | E   | Q   | V   | Q   | R   | D   | G   | A   | A   | A   | S   | L   | A   | Q   | G   | G   | L   | L   | P   | 539  |
| AAG | GAG | CAG | GTT | CAG | CGG | GAT | GGA | GCA | GCT | GCT | AGC | CTC | GCC | CAA | GGG | GGT | CTG | CTC | CCT | 1936 |
| E   | N   | A   | L   | F   | T   | S   | I   | Q   | S   | L   | Q   | S   | E   | S   | E   | P   | L   | S   | L   | 559  |
| GAA | AAT | GCC | CTC | TTT | ACG | TCT | ATC | CAG | TCC | TTA | CAA | TCT | GAG | TCT | GAG | CCC | CTG | AGC | CTT | 1996 |
| I   | A   | N   | V   | V   | A   | G   | S   | S   | C   | R   | G   | P   | P   | L   | P   | R   | D   | L   | Q   | 579  |
| ATC | GCA | AAT | GTG | GTA | GCT | GGC | TCA | TCC | TGC | CGG | GGC | CCT | CCA | CTG | CCC | AGA | GAC | CTG | CAG | 2056 |
| G   | S   | R   | H   | R   | A   | E   | V   | A   | S   | A   | L   | R   | S   | F   | S   | P   | L   | Q   | P   | 599  |
| GGC | TCC | AGG | CAC | AGG | GCT | GAA | GTC | GCC | TCT | GCC | CTG | CGC | TCC | TTC | TCC | CCG | CTG | CAA | CCC | 2116 |

Fig. 17D

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| G   | Q   | A   | P   | T   | G   | R   | A   | H   | S   | T   | M   | T   | G   | S   | G   | V   | D   | A   | R   | 619  |
| GGG | CAG | GCG | CCC | ACA | GCG | CGG | GCT | CAC | AGC | ACC | ATG | ACA | GGC | TCT | GGG | GTG | GAT | GCC | AGG | 2176 |
| T   | A   | S   | S   | G   | S   | S   | V   | W   | E   | G   | Q   | L   | Q   | S   | L   | V   | L   | S   | E   | 639  |
| ACA | GCC | AGC | TCC | GGG | AGC | AGC | GTG | TGG | GAA | GGA | CAG | CTG | CAG | AGC | CTG | GTG | CTG | TCA | GAA | 2236 |
| Y   | A   | S   | T   | E   | M   | S   | L   | H   | A   | L   | Y   | M   | H   | Q   | L   | H   | K   | Q   | Q   | 659  |
| TAT | GCA | TCC | ACA | GAG | ATG | AGC | CTG | CAT | GCC | CTC | TAT | ATG | CAC | CAG | CTC | CAC | AAG | CAG | CAG | 2296 |
| A   | Q   | A   | E   | P   | E   | R   | H   | V   | W   | H   | R   | R   | E   | S   | D   | E   | S   | G   | E   | 679  |
| GCC | CAG | GCT | GAA | CCT | GAG | CGG | CAT | GTA | TGG | CAC | CGC | CGG | GAG | AGT | GAT | GAG | AGT | GGA | GAA | 2356 |
| S   | A   | P   | D   | E   | G   | G   | E   | G   | A   | R   | A   | P   | Q   | S   | I   | P   | R   | S   | A   | 699  |
| AGC | GCC | CCT | GAT | GAA | GGG | GGA | GAG | GAG | GCC | CGG | GCC | CGG | CAG | TCT | ATC | CCT | CGC | TCT | GCT | 2416 |
| S   | Y   | P   | C   | A   | A   | P   | R   | P   | G   | A   | P   | E   | T   | T   | A   | L   | H   | G   | G   | 719  |
| AGC | TAT | CCC | TGT | GCA | GCA | CCC | CGG | CCT | GGA | GCT | CCT | GAG | ACC | ACC | GCC | CTG | CAT | GGG | GGC | 2476 |
| F   | Q   | R   | R   | Y   | G   | G   | I   | T   | D   | P   | G   | T   | V   | P   | R   | V   | P   | S   | H   | 739  |
| TTC | CAG | AGG | CGC | TAC | GGT | GGC | ATC | ACA | GAT | CCT | GGC | ACA | GTG | CCC | AGG | GTT | CCC | TCT | CAT | 2536 |
| F   | S   | R   | L   | P   | L   | G   | G   | W   | A   | E   | D   | G   | Q   | S   | A   | S   | R   | H   | P   | 759  |
| TTC | TCT | CGG | CTG | CCT | CTT | GGA | GGG | TGG | GCA | GAA | GAT | GGG | CAG | TCG | GCA | TCA | AGG | CAC | CCT | 2596 |

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Fig. 17E

# REFSeq

|      |      |        |       |       |        |       |      |        |      |      |        |       |       |      |      |       |       |        |      |      |
|------|------|--------|-------|-------|--------|-------|------|--------|------|------|--------|-------|-------|------|------|-------|-------|--------|------|------|
| E    | P    | V      | P     | E     | E      | G     | S    | E      | D    | E    | L      | P     | P     | Q    | V    | H     | K     | V      | *    | 779  |
| GAG  | CCC  | GTG    | CCC   | GAA   | GAG    | GGC   | TCG  | GAG    | GAT  | GAG  | CTA    | CCC   | CCT   | CAG  | GTG  | CAC   | AAG   | GTA    | TAG  | 2656 |
|      |      |        |       |       |        |       |      |        |      |      |        |       |       |      |      |       |       |        |      |      |
| ACA  | AGG  | CTG    | AGC   | AGG   | TTCC   | TGT   | GCCC | AGG    | ATG  | GAG  | GCC    | ACCG  | CTGCC | ATCC | CGT  | CTGCC | CTGCC | ATGG   | ACGG | 2735 |
| CTC  | CTCT | GAG    | TGTT  | CCCT  | TGCCCC | CAC   | GTGT | GTG    | TTT  | TGT  | GTCT   | GTG   | TCT   | GTG  | CTG  | CCAA  | GGAG  | GTGCC  | AACT | 2814 |
| TTG  | CCAC | AGCCCC | CAG   | GAG   | AGG    | AAATT | TGG  | GGCC   | TAG  | GAA  | CCG    | AGG   | GCAC  | CGG  | ACT  | CTAG  | CCCT  | ATCCCC | AGG  | 2893 |
| TTG  | GCT  | CAG    | AGT   | GTG   | TGCT   | AGAAA | CTG  | GTCCCC | AGCC | AGT  | ACT    | GTGCC | AACT  | TTAC | ACCT | TAC   | CCCC  | TGCA   | AGTC | 2972 |
| CCC  | AG   | GGG    | CTGCC | CCAC  | GAT    | AGAA  | CTG  | CCCA   | AGC  | AGG  | AGAA   | CCCT  | GTGCC | AACT | GTGG | AGT   | GGG   | AGGT   | GGCC | 3051 |
| CCCT | CA   | ACCC   | CTG   | CAAC  | CTT    | CCCT  | AG   | CCCC   | CTCA | ATAG | ATG    | AGC   | AGT   | CAG  | GTGT | GGCC  | TTAC  | CTC    | ACCC | 3130 |
| TCG  | CCC  | AGT    | GTG   | CAG   | CCGG   | CTCAC | CTCT | CTCC   | GTCT | CTTG | CAC    | ATC   | ACT   | GGCC | GTGT | GTG   | CTG   | CTCT   | CTG  | 3209 |
| GT   | TCG  | CTT    | GC    | TTCC  | GTTC   | CGCT  | TTTG | CTTT   | GC   | TTAG | GTGA   | AGAC  | CCCT  | AG   | CTCC | AGCT  | CCCC  | TCAA   | CGCT | 3288 |
| AT   | TTTG | ACAC   | TAAAA | AGAG  | TTT    | CTAAA | TTG  | TAG    | AGC  | AGG  | ATG    | GAA   | ATA   | CTTT | GTG  | CTGCC | CTTG  | CCAT   | CTTT | 3367 |
| TGG  | CCCC | CAG    | GACT  | GAG   | GTCT   | CTCC  | TGG  | CCCT   | CA   | TTG  | CTG    | CTT   | ATCG  | TAC  | CCCC | CA    | TAC   | CTGC   | ACAT | 3446 |
| CCG  | GGCT | GG     | AGGT  | GAC   | CTT    | GGCT  | GTGT | ACGT   | CCC  | AGCA | AAAG   | AGCT  | CTGG  | CCCG | CA   | CTCG  | CTGT  | GCCCC  | TGA  | 3525 |
| ATGA | AGG  | CGG    | ATGCC | CTGCC | CCG    | AGG   | CTTT | GGG    | CTG  | CTG  | CACT   | GCAT  | GTGG  | ACT  | GTCT | CTACT | CTCT  | GTCCCC | ACCC | 3604 |
| CACC | AGCT | GTG    | TCC   | GGCT  | TTT    | GGG   | AG   | AGT    | GTGA | ATT  | GCG    | CTG   | CCCG  | AACT | CGG  | AGCG  | GAG   | CAGG   | TAGG | 3683 |
| ACAG | CTTG | ATA    | ACCC  | TTA   | ATA    | AAAA  | AGG  | AGT    | TTG  | ACC  | AGAAAA | AAAA  | AAAA  | AAAA | AAAA | AAAA  | AAAA  | AAAA   | AAAA | 3762 |
| GGG  | CCGC |        |       |       |        |       |      |        |      |      |        |       |       |      |      |       |       |        |      | 3770 |

Fig. 17F

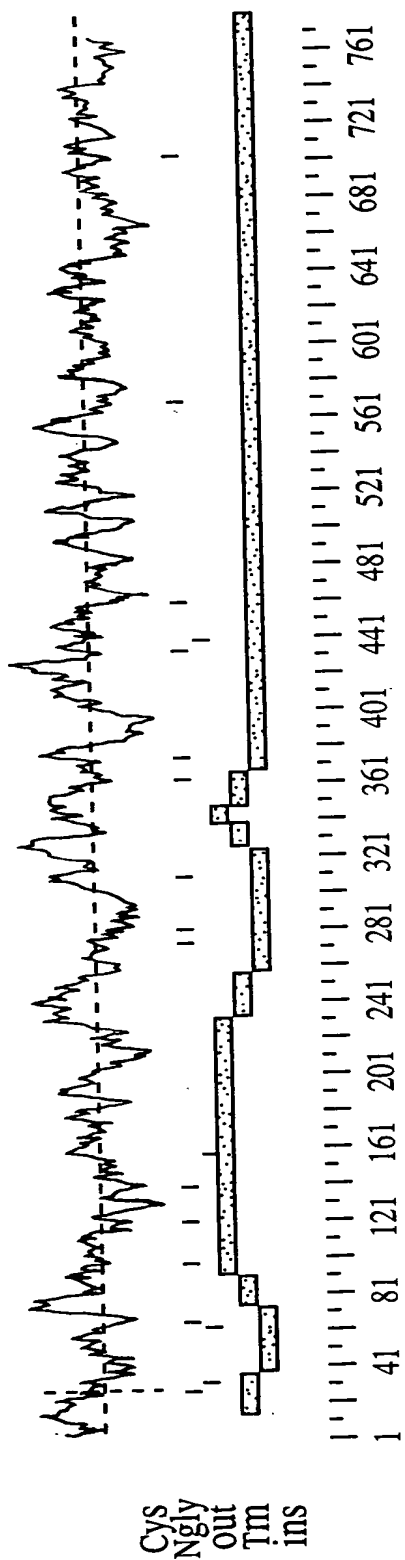


FIG. 176

|   |     |
|---|-----|
| CCCGGCTAGCGCGGGTCCGCCGAGCCGAGCCGAGCGGAGCGCGGAGCCTCTGGAATCACCCGGGTCG             | 79  |
| CTGTTCTGAGGTGGTCAAGGTGGACAGGGGGCGGTGGTG   | 9   |
| ATG GCG CAG TTT GAC ACT GAA TAC CAG   | 146 |
| R L E A S Y S D S P P G E D L L V H V   | 29  |
| CGC CTA GAG GCC TCC TAT AGT GAT TCA CCC CCA GGG GAG GAG CTG TTG GTG CAC GTC     | 206 |
| A E G S K S P W H H I E N L D L F F S R   | 49  |
| GCC GAG GGG AGC AAG TCA CCT TGG CAC CAT ATT GAA AAC CTT GAC CTC TTC TTC TCT CGA | 266 |
| V Y N L H Q K N G F T C M L I G E I F E   | 69  |
| GTT TAT AAT CTG CAC CAG AAG AAT GGC TTC ACA TGT ATG CTC ATC GGG GAG ATC TTT GAG | 326 |
| L M Q F L F V V A F T T F L V S C V D Y   | 89  |
| CTC ATG CAG TTC CTC TTT GTG GTT GCC TTC ACT ACC TTC CTG GTC AGC TGC GTG GAC TAT | 386 |
| D I L F A N K M V N H S L H P T E P V K   | 109 |
| GAC ATC CTA TTT GCC AAC AAG ATG GTG AAC CAC AGT CTT CAC CCT ACT GAA CCC GTC AAG | 446 |
| V T L P D A F L P A Q V C S A R I Q E N   | 129 |
| GTC ACT CTG CCA GAC GCC TTT TTG CCT GCT CAA GTC TGT AGT GCC AGG ATT CAG GAA AAT | 506 |

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Fig. 17H

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| G   | S   | L   | I   | T   | I   | L   | V   | I   | A   | G   | V   | F   | W   | I   | H   | R   | L   | I   | K   | 149 |
| GGC | TCC | CTT | ATC | ACC | ATC | CTG | GTC | ATT | GCT | GGT | GTC | TTC | TGG | ATC | CAC | CGG | CTT | ATC | AAG | 566 |
| F   | I   | Y   | N   | I   | C   | C   | Y   | W   | E   | I   | H   | S   | F   | Y   | L   | H   | A   | L   | R   | 169 |
| TTC | ATC | TAT | AAC | ATT | TGC | TGC | TAC | TGG | GAG | ATC | CAC | TCC | TTC | TAC | CTG | CAC | GCT | CTG | CGC | 626 |
| I   | P   | M   | S   | A   | L   | P   | Y   | C   | T   | W   | Q   | E   | V   | Q   | A   | R   | I   | V   | Q   | 189 |
| ATC | CCT | ATG | TCT | GCC | CTT | CCG | TAT | TGC | ACG | TGG | CAA | GAA | GAG | GTG | CAG | GCC | ATC | GTG | CAG | 686 |
| T   | Q   | K   | E   | H   | Q   | I   | C   | I   | H   | K   | R   | E   | L   | T   | E   | L   | D   | I   | Y   | 209 |
| ACG | CAG | AAG | GAG | CAC | CAG | ATC | TGC | ATC | CAC | AAA | CGT | GAG | CTG | ACA | GAA | CTG | GAC | ATC | TAC | 746 |
| H   | R   | I   | L   | R   | F   | Q   | N   | Y   | M   | V   | A   | L   | V   | N   | K   | S   | L   | L   | P   | 229 |
| CAC | CGC | ATC | CTC | CGT | TTC | CAG | AAC | TAC | ATG | GTC | GCA | CTG | GTT | AAC | AAA | TCC | CTC | CTG | CCT | 806 |
| L   | R   | F   | R   | L   | P   | G   | L   | G   | E   | A   | V   | F   | F   | T   | R   | G   | L   | K   | Y   | 249 |
| CTG | CGC | TTC | CGC | CTG | CCT | GGC | CTC | GGG | GAA | GCT | GTC | TTC | TTC | ACC | CGT | GGT | CTC | AAG | TAC | 866 |
| N   | F   | E   | L   | I   | L   | F   | W   | G   | P   | G   | S   | L   | F   | L   | N   | E   | W   | S   | L   | 269 |
| AAC | TTT | GAG | CTG | ATC | CTC | TTC | TGG | GGA | CCT | GGC | TCT | CTG | TTT | CTC | AAT | GAA | TGG | AGC | CTC | 926 |
| K   | A   | E   | Y   | K   | R   | G   | G   | Q   | R   | L   | E   | L   | A   | Q   | R   | L   | S   | N   | R   | 289 |
| AAG | GCC | GAG | TAC | AAA | CGT | GGG | GGG | CAA | CGG | CTA | GAG | CTG | GCC | CAG | CGC | CTC | AGC | AAC | CGC | 986 |

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Fig. 171

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| I   | L   | W   | I   | G   | I   | A   | N   | F   | L   | L   | C   | P   | L   | I   | L   | I   | W   | Q   | I   | 309  |
| ATC | CTG | TGG | ATT | GGC | ATC | GCT | AAC | TTC | CTG | CTG | TGC | CCC | CTC | ATC | CTC | ATA | TGG | CAA | ATC | 1046 |
| L   | Y   | A   | F   | F   | S   | Y   | A   | E   | V   | L   | K   | R   | E   | P   | G   | A   | L   | G   | A   | 329  |
| CTC | TAT | GCC | TTC | TTC | AGC | TAT | GCT | GAG | GTG | CTG | AAG | CGG | GAG | CCG | GGG | GCC | CTG | GGA | GCA | 1106 |
| R   | C   | W   | S   | L   | Y   | G   | R   | C   | Y   | L   | R   | H   | F   | N   | E   | L   | E   | H   | E   | 349  |
| CGC | TGC | TGG | TCA | CTC | TAT | GGC | CGC | TGC | TAC | CTC | CGC | CAC | TTC | AAC | GAG | CTG | GAG | CAC | GAG | 1166 |
| L   | Q   | S   | R   | L   | N   | R   | G   | Y   | K   | P   | A   | S   | K   | Y   | M   | N   | C   | F   | L   | 369  |
| CTG | CAG | TCC | CGC | CTC | AAC | CGT | GGC | TAC | AAG | CCC | GCC | TCC | AAG | TAC | ATG | AAT | TGC | TTC | TTG | 1226 |
| S   | P   | L   | L   | T   | L   | L   | A   | K   | N   | G   | A   | F   | F   | A   | G   | S   | I   | L   | A   | 389  |
| TCA | CCT | CTT | TTG | ACA | CTG | CTG | GCC | AAG | AAT | GGA | GCC | TTC | TTC | GCT | GGC | TCC | ATC | CTG | GCT | 1286 |
| V   | L   | I   | A   | L   | T   | I   | Y   | D   | E   | D   | V   | L   | A   | V   | E   | H   | V   | L   | T   | 409  |
| GTG | CTT | ATT | GCC | CTC | ACC | ATT | TAT | GAC | GAA | GAT | GTG | TTG | GCT | GTG | GAA | CAT | GTG | CTG | ACC | 1346 |
| T   | V   | T   | L   | L   | G   | V   | T   | V   | T   | V   | C   | R   | S   | F   | I   | P   | D   | Q   | H   | 429  |
| ACC | GTC | ACA | CTC | CTG | GGG | GTC | ACC | GTG | ACC | GTG | TGC | AGG | TCC | TTT | ATC | CCG | GAC | CAG | CAC | 1406 |
| M   | V   | F   | C   | P   | E   | Q   | L   | L   | R   | V   | I   | L   | A   | H   | I   | H   | Y   | M   | P   | 449  |
| ATG | GTG | TTC | TGC | CCT | GAG | CAG | CTG | CTC | CGC | GTG | ATC | CTC | GCT | CAC | ATC | CAC | TAC | ATG | CCT | 1466 |

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Fig. 17J

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| D   | H   | W   | Q   | G   | N   | A   | H   | R   | S   | Q   | T   | R   | D   | E   | F   | A   | Q   | L   | F   | 469  |
| GAC | CAC | TGG | CAG | GGT | AAT | GCC | CAC | CGC | TCG | CAG | ACC | CGG | GAC | GAG | TTT | GCC | CAG | CTC | TTC | 1526 |
| Q   | Y   | K   | A   | V   | F   | I   | L   | E   | E   | L   | L   | S   | P   | I   | V   | T   | P   | L   | I   | 489  |
| CAG | TAC | AAG | GCA | GTG | TTC | ATT | TTG | GAA | GAG | TTG | CTG | AGC | CCC | ATT | GTC | ACA | CCC | CTC | ATC | 1586 |
| L   | I   | F   | C   | L   | R   | P   | R   | A   | L   | E   | I   | I   | D   | F   | F   | R   | N   | F   | T   | 509  |
| CTC | ATC | TTC | TGC | CTG | CGC | CCA | CGG | GCC | CTG | GAG | ATT | ATA | GAC | TTC | TTC | CGA | AAC | TTC | ACC | 1646 |
| V   | E   | V   | V   | G   | V   | G   | D   | T   | C   | S   | F   | A   | Q   | M   | D   | V   | R   | Q   | H   | 529  |
| GTG | GAG | GTC | GTT | GGT | GTG | GGA | GAT | ACC | TGC | TCC | TTT | GCT | CAG | ATG | GAT | GTT | CGC | CAG | CAT | 1706 |
| G   | H   | P   | Q   | W   | L   | S   | A   | G   | Q   | T   | E   | A   | S   | V   | Y   | Q   | Q   | A   | E   | 549  |
| GGT | CAT | CCC | CAG | TGG | CTA | TCT | GCT | GGG | CAG | ACA | GAG | GCC | TCA | GTG | TAC | CAG | CAA | GCT | GAG | 1766 |
| D   | G   | K   | T   | E   | L   | S   | L   | M   | H   | F   | A   | I   | T   | N   | P   | G   | W   | Q   | P   | 569  |
| GAT | GGA | AAG | ACA | GAG | TTG | TCA | CTC | ATG | CAC | TTT | GCC | ATC | ACC | AAC | CCT | GGC | TGG | CAG | CCA | 1826 |
| P   | R   | E   | S   | T   | A   | F   | L   | G   | F   | L   | K   | E   | Q   | V   | Q   | R   | D   | G   | A   | 589  |
| CCA | CGT | GAG | AGC | ACA | GCC | TTC | CTA | GGC | TTC | CTC | AAG | GAG | CAG | GTT | CAG | CGG | GAT | GGA | GCA | 1886 |
| A   | A   | S   | L   | A   | Q   | G   | G   | L   | L   | P   | E   | N   | A   | L   | F   | T   | S   | I   | Q   | 609  |
| GCT | GCT | AGC | CTC | GCC | CAA | GGG | GGT | CTG | CTC | CCT | GAA | AAT | GCC | CTC | TTT | ACG | TCT | ATC | CAG | 1946 |

Fig. 17K







|   |       |
|---|-------|
| GCTGGAGCGGAGCGCAATGCTCAGCCCTGGATGTAGCTGAGAGGCTGGGAGAAGACGACCGCTGGAGACCG         | 79    |
| AGCGCGTGGGAAGACCTAGGGGTGGTGGGAAGCAGACAGGAGAACAACCTCGAAATCAAGCGCTTACAGATTA       | 158   |
|   |       |
| TTTTTATTTGTATAGAGAACACGTAGCGACTCCGAAGATCAGCCCCA ATG AAC ATG TCA GTG TTG ACT TTA | 8 229 |
|   |       |
| Q E Y E F E K Q F N E N E A I Q W M Q E   | 28    |
| CAA GAA TAT GAA TTC GAA AAG CAG TTC AAC GAG AAT GAA GCC ATC CAA TGG ATG CAG GAA | 289   |
|   |       |
| N W K K S F L F S A L Y A A F I F G G R   | 48    |
| AAC TGG AAG AAA TCT TTC CTG TTT TCT GCT TAT GCT GCC TTT ATA TTC GGT GGT CGG     | 349   |
|   |       |
| H L M N K R A K F E L R K P L V L W S L   | 68    |
| CAC CTA ATG AAT AAA CGA GCA AAG TTT GAA CTG AGG AAG CCA TTA GTG CTC TGG TCT CTG | 409   |
|   |       |
| T L A V F S I F G A L R T G A Y M V Y I   | 88    |
| ACC CTT GCA GTC TTC AGT ATA TTC GGT GCT CTT CGA ACT GGT GCT TAT ATG GTG TAC ATT | 469   |
|   |       |
| L M T K G L K Q S V C D Q G F Y N G P V   | 108   |
| TTG ATG ACC AAA GGC CTG AAG CAG TCA GTT TGT GAC CAG GGT TTT TAC AAT GGA CCT GTC | 529   |
|   |       |
| S K F W A Y A F V L S K A P E L G D T I   | 128   |
| AGC AAA TTC TGG GCT TAT GCA TTT GTG CTA AGC AAA GCA CCC GAA CTA GGA GAT ACA ATA | 589   |

Fig. 18A

|         |            |                 |               |                 |                   |            |            |            |            |            |            |            |            |            |            |            |            |            |            |      |
|---------|------------|-----------------|---------------|-----------------|-------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------|
| F       | I          | I               | L             | R               | K                 | Q          | K          | L          | I          | F          | L          | H          | W          | Y          | H          | H          | I          | T          | V          | 148  |
| TTC     | ATT        | ATT             | CTG           | AGG             | AAG               | CAG        | AAG        | CTG        | ATC        | TTC        | CTG        | CAC        | TGG        | TAT        | CAC        | CAC        | ATC        | ACT        | GTG        | 649  |
| L       | L          | Y               | S             | W               | Y                 | S          | Y          | K          | D          | M          | V          | A          | G          | G          | G          | W          | F          | M          | T          | 168  |
| CTC     | CTG        | TAC             | TCT           | TGG             | TAC               | TCC        | TAC        | AAA        | GAC        | ATG        | GTT        | GCC        | GGG        | GGA        | GGT        | TGG        | TTC        | ATG        | ACT        | 709  |
| M       | N          | Y               | G             | V               | H                 | A          | V          | M          | Y          | S          | Y          | Y          | A          | L          | R          | A          | A          | G          | F          | 188  |
| ATG     | AAC        | TAT             | GGC           | GTG             | CAC               | GCC        | GTG        | ATG        | TAC        | TCT        | TAC        | TAT        | GCC        | TTG        | CGG        | GCG        | GCA        | GGT        | TTC        | 769  |
| R       | V          | S               | R             | K               | F                 | A          | M          | F          | I          | T          | L          | S          | Q          | I          | T          | Q          | M          | L          | M          | 208  |
| CGA     | GTC        | TCC             | CGG           | AAG             | TTT               | GCC        | ATG        | TTC        | ATC        | ACC        | TTG        | TCC        | CAG        | ATC        | ACT        | CAG        | ATG        | CTG        | ATG        | 829  |
| G       | C          | V               | V             | N               | Y                 | L          | V          | F          | C          | W          | M          | Q          | H          | D          | Q          | C          | H          | S          | H          | 228  |
| GGC     | TGT        | GTG             | GTT           | AAC             | TAC               | CTG        | GTC        | TTC        | TGC        | TGG        | ATG        | CAG        | CAT        | GAC        | CAG        | TGT        | CAC        | TCT        | CAC        | 889  |
| F       | Q          | N               | I             | F               | W                 | S          | S          | L          | M          | Y          | L          | S          | Y          | L          | V          | L          | F          | C          | H          | 248  |
| TTT     | CAG        | AAC             | ATC           | TTC             | TGG               | TCC        | TCA        | CTC        | ATG        | TAC        | CTC        | AGC        | TAC        | CTT        | GTG        | CTC        | TTC        | TGC        | CAT        | 949  |
| F       | F          | F               | E             | A               | Y                 | I          | G          | K          | M          | R          | K          | T          | T          | K          | A          | E          | *          |            |            | 266  |
| TTC     | TTC        | TTT             | GAG           | GCC             | TAC               | ATC        | GGC        | AAA        | ATG        | AGG        | AAA        | ACA        | ACG        | AAA        | GCT        | GAA        | TAG        |            |            | 1003 |
| TGTTGGA | ACTGAGGAGG | AAGCCATAGCTCAGG | GTCAATAGACAAA | AATATAGACAAA    | AAATGACAAA        | AAATGACAAA | AAATGACAAA | AAATGACAAA | AAATGACAAA | AAATGACAAA | AAATGACAAA | AAATGACAAA | AAATGACAAA | AAATGACAAA | AAATGACAAA | AAATGACAAA | AAATGACAAA | AAATGACAAA | AAATGACAAA | 1082 |
| ACGTGGT | GAGCTAAA   | ACAAAACATGAGCA  | AAACACAAA     | ACCAAGCAGCTTAGG | GATATTAGGTTGATTAA | 1161       |            |            |            |            |            |            |            |            |            |            |            |            |            |      |

Fig. 18B



# Sequence

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| L   | K   | Q   | S   | V   | C   | D   | Q   | S   | F   | Y   | N   | G   | P   | V   | S   | K   | F   | W   | 19  |     |
| GC  | CTG | AAG | CAG | TCA | GTT | TGT | GAC | CAG | AGT | TTT | TAC | AAT | GGA | CCT | GTC | AGC | AAA | TTC | TGG | 59  |
| A   | Y   | A   | F   | V   | L   | S   | K   | A   | P   | E   | L   | G   | D   | T   | I   | F   | I   | I   | L   | 39  |
| GCT | TAT | GCA | TTT | GTG | CTC | AGC | AAA | GCA | CCC | GAA | CTA | GGT | GAC | ACG | ATA | TTC | ATC | ATT | CTG | 119 |
| R   | K   | Q   | K   | L   | I   | F   | L   | H   | W   | Y   | H   | H   | I   | T   | V   | L   | L   | Y   | S   | 59  |
| AGG | AAA | CAG | AAA | CTG | ATC | TTC | CTG | CAC | TGG | TAC | CAC | CAC | ATC | ACT | GTG | CTC | CTG | TAC | TCC | 179 |
| W   | Y   | S   | Y   | K   | D   | M   | V   | A   | G   | G   | G   | W   | F   | M   | T   | M   | N   | Y   | G   | 79  |
| TGG | TAC | TCC | TAC | AAA | GAC | ATG | GTC | GCT | GGG | GGT | TGG | TTC | ATG | ACT | ATG | AAC | TAT | GGC |     | 239 |
| V   | H   | A   | V   | M   | Y   | S   | Y   | Y   | A   | L   | R   | A   | A   | G   | F   | R   | V   | S   | R   | 99  |
| GTG | CAT | GCC | GTC | ATG | TAC | TCT | TAC | TAC | GCC | TTG | CGG | GCT | GCG | GGT | TTC | CGA | GTC | TCC | CGG | 299 |
| K   | F   | A   | M   | F   | I   | T   | L   | S   | Q   | I   | T   | Q   | M   | L   | M   | G   | C   | V   | I   | 119 |
| AAG | TTT | GCC | ATG | TTC | ATC | ACC | TTG | TCC | CAG | ATC | ACT | CAG | ATG | CTG | ATG | GGC | TGT | GTC | ATT | 359 |
| N   | Y   | L   | V   | F   | N   | W   | M   | Q   | H   | D   | N   | D   | Q   | C   | Y   | S   | H   | F   | Q   | 139 |
| AAC | TAC | CTG | GTC | TTC | AAC | TGG | ATG | CAG | CAT | GAC | AAC | GAC | CAG | TGC | TAC | TCC | CAC | TTT | CAG | 419 |
| N   | I   | F   | W   | S   | S   | L   | M   | Y   | L   | S   | Y   | L   | V   | L   | F   | C   | H   | F   | F   | 159 |
| AAC | ATC | TTC | TGG | TCC | TCG | CTC | ATG | TAC | CTC | AGC | TAC | CTT | GTG | CTC | TTC | TGC | CAT | TTC | TTC | 479 |

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Fig. 18E



|      |      |       |       |       |       |       |        |       |        |       |        |        |        |         |                  |                        |              |      |
|------|------|-------|-------|-------|-------|-------|--------|-------|--------|-------|--------|--------|--------|---------|------------------|------------------------|--------------|------|
| F    | E    | A     | Y     | I     | G     | K     | V      | K     | K      | A     | T      | K      | A      | E       | *                | 175                    |              |      |
| TTT  | GAG  | GCC   | TAC   | ATC   | GGC   | AAA   | GTG    | AAG   | AAA    | GCC   | ACG    | AAG    | GCT    | GAG     | TAG              | 527                    |              |      |
|      |      |       |       |       |       |       |        |       |        |       |        |        |        |         |                  |                        |              |      |
| TGT  | CAG  | GCT   | GAG   | GAA   | GTC   | ATAG  | CTC    | AGG   | GTCA   | TAC   | GAAAA  | ATA    | TAC    | GAC     | AAAA             | ATGGCACAAAGGAATCC      | 606          |      |
| CAT  | ATG  | TCAG  | CTAAA | ACAAA | CAAT  | CCGT  | ATAG   | CAAG  | CCAC   | GAG   | CCCA   | AGC    | AGCT   | TGG     | ACTGA            | AGATTAG                | 685          |      |
| GTT  | GTA  | AGTT  | TAT   | GAT   | CCCT  | TCT   | GGT    | GAG   | GA     | CTCG  | TGAG   | TGCA   | ACTCT  | TAT     | CTCAA            | AGCACGGCTGCTGAGGGGACC  | 764          |      |
| CCT  | TCC  | CTCT  | GGC   | CTGT  | CAACT | CTAG  | AAAC   | ACACT | AGAT   | GCAA  | AGC    | AGCC   | ACGG   | GCAA    | AGAG             | ATTGGGCAGAGATTAGT      | 843          |      |
| GG   | AC   | GGCC  | AGCA  | AAAA  | CACT  | GC    | AGGA   | AGC   | AGGT   | GGGG  | GAGGA  | ATCT   | ACT    | CAG     | CCCTTT           | TGTGTTTGTGTTTT         | 922          |      |
| GTT  | TTT  | CTCT  | AAG   | GATA  | AAAG  | GATT  | TCCC   | CTTT  | CAAA   | CGAT  | GTG    | AGCA   | CAC    | ACAC    | ACAC             | CACACACACACACA         | 1001         |      |
| CAC  | AC   | CAC   | AC    | ACG   | CAAT  | CTTT  | TCAA   | CAC   | GAA    | ACC   | AGAG   | CTAAA  | AGAAA  | AGATA   | AAAC             | ATGGGAGAGACAGGGTTTCTAT | 1080         |      |
| CT   | GG   | AC    | AGCA  | ATGCT | TTTG  | CAAA  | AGGCT  | AGGC  | CTTT   | AAAG  | AAAGGT | GAGCT  | TGTA   | ACTC    | CTTGATA          | AAAGATGCTT             | 1159         |      |
| AA   | TTAT | TTT   | TACT  | GCA   | ACTG  | AAAG  | TAAG   | AGGT  | AGAG   | CCCT  | TTCCC  | CTTCTG | CAC    | AGCCT   | CAGGCT           | TGTA                   | TGTTCTCTA    | 1238 |
| CA   | ACC  | AAAC  | AC    | AG    | ACAG  | TACT  | TCCCC  | CATG  | ATACT  | TTATT | ACTG   | GGAG   | AAAG   | AAAC    | CCCC             | TGTAGTTG               | AAACACCCACAC | 1317 |
| TG   | ACAA | CTGT  | TATTT | CTG   | CTCT  | CCG   | ACG    | AGAA  | TTCA   | AGCAT | CCGTT  | GTTCA  | AGTTG  | CCCC    | CAAAC            | TTTAGGACGGAGGAGT       | 1396         |      |
| AA   | ATG  | CAGAA | CTG   | AAAG  | GGAAG | AGCT  | CAGCT  | GGCT  | GGCT   | TGAAA | ATGG   | AGTCT  | TGT    | ACC     | ATGTGTA          | ACAAATGCCAGC           | 1475         |      |
| CC   | ATCG | TCCCT | GGAG  | CTGA  | ACAG  | GGAG  | GAAG   | GGCT  | ATGG   | GCAG  | AGACT  | AGAG   | CCGG   | ATTCA   | TCCA             | ATGTGCAGACAGCG         | 1554         |      |
| TG   | TTG  | CGCCT | CCCT  | CGTT  | CGAC  | CTCAC | ACATA  | ATCCT | GGCTTT | CTAAA | TGAG   | GCCCTG | TGAC   | ACACT   | CTGTGCTTTC       | 1633                   |              |      |
| TAT  | AT   | TTTT  | TGTG  | ACTTT | CAA   | ACAC  | AGATCT | GCAG  | GGCTCT | GCCT  | GATTT  | GGGT   | AAAC   | ACTGTG  | TTTCTGCAGCCTCTG  | 1712                   |              |      |
| CAT  | TTG  | CTCC  | CTCAG | CGTGC | AGGCT | TGAG  | AAAGT  | GCCT  | CTGCT  | GGCT  | TAGT   | GAG    | AGCTT  | CAAC    | AAACACTTCAC      | 1791                   |              |      |
| AG   | TAG  | TTG   | AAA   | TAACT | GACCA | CTAAG | GGCCT  | GCG   | GAGATT | AAAC  | CCCTA  | AGTTCT | AA     | GTGCTGT | CAACACACCTGACATA | 1870                   |              |      |
| TAT  | TTG  | ACCA  | AAAT  | CAGA  | AGAG  | AGAAC | CTCT   | ATG   | CTTCA  | AGTA  | AGCGT  | CATA   | AAATTT | TTTAA   | GTGACTTTCAC      | TTG                    | 1949         |      |
| AG   | AACT | CAG   | AAA   | AGTCA | ATGT  | ATTAA | GAG    | CCAT  | ATTCT  | GAAA  | GAAA   | AGAA   | GAG    | AAAG    | AAAG             | AAAA                   | AAAA         | 2028 |
| AAAA |      |       |       |       |       |       |        |       |        |       |        |        |        |         |                  | 2032                   |              |      |

Fig. 18F



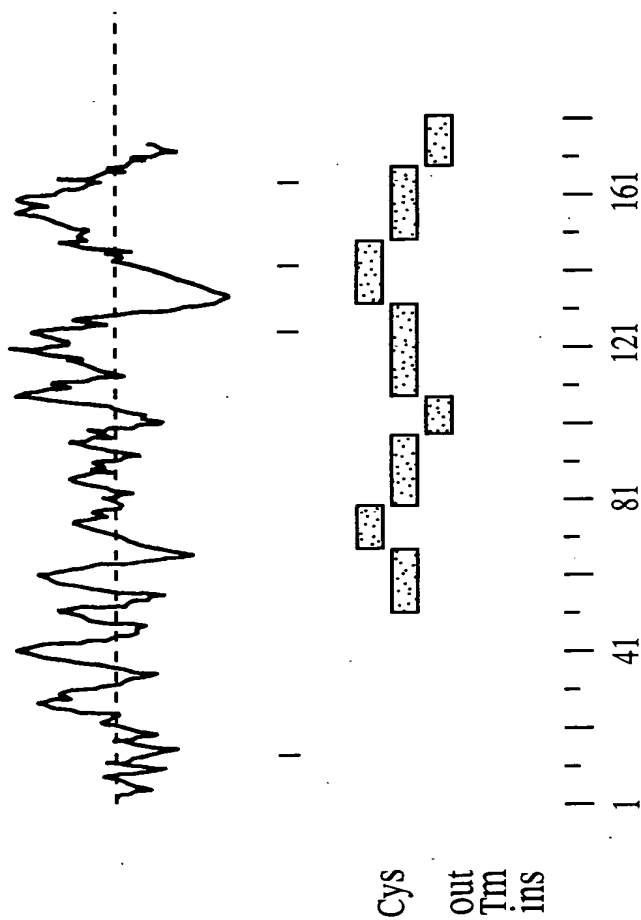


FIG. 186

|        |  |     |     |     |     |     |     |     |
|--------|--|-----|-----|-----|-----|-----|-----|-----|
| human  | MNMSVLT  | 10  | 20  | 30  | 40  | 50  | 60  | 70  |
|        | QEQEFKQFNENEAIQWMQENWKKSFLFSALYAAFIFGGRHLMNKRAKFE                    |     |     |     |     |     |     |     |
|        | LPVLSLTL   |     |     |     |     |     |     |     |
| murine | -----  |     |     |     |     |     |     |     |
| human  | AVFSIFGALRTGAYMVYILMTKGLKQSVCDQGFYNGPVS                              | 80  | 90  | 100 | 110 | 120 | 130 | 140 |
|        | KFWAYAFVLSKAPELGDTIFILRKQKLIFL                                       |     |     |     |     |     |     |     |
| murine | -----  |     |     |     |     |     |     |     |
|        | -----LQSVCDQSFYNGPVS   |     |     |     |     |     |     |     |
|        | KFWAYAFVLSKAPELGDTIFILRKQKLIFL                                       |     |     |     |     |     |     |     |
|        | -----  |     |     |     |     |     |     |     |
| human  | HWYHHITVLLYSWYSYKDMVAGGWFMTMNYGVHAVMYSYALRAAGFRVSRKFAMFITLSQITQMLMGC | 150 | 160 | 170 | 180 | 190 | 200 | 210 |
| murine | -----  |     |     |     |     |     |     |     |
|        | -----  |     |     |     |     |     |     |     |
|        | -----  |     |     |     |     |     |     |     |
| human  | VVNYLVFCWMQHD--QCHSHFQNI   | 220 | 230 | 240 | 250 | 260 |     |     |
|        | FWSSLMYLSYLVLFCHFFFEAYIGKMRKTTKAE                                    |     |     |     |     |     |     |     |
| murine | VINYLVFNWMQHDNDQCYSHFQNI   | 120 | 130 | 140 | 150 | 160 | 170 |     |
|        | FWSSLMYLSYLVLFCHFFFEAYIGKVKATKAE                                     |     |     |     |     |     |     |     |

Fig. 18H



|        |   |                              |     |     |     |     |     |
|--------|---|------------------------------|-----|-----|-----|-----|-----|
| human  | 290   | 300                          | 310 | 320 | 330 | 340 | 350 |
|        | TGAAGCAGTCAGTTTGTGACACGAGGTTTTTACAATGGACCTGT  | CAGCAAATCTGGGCTTATGCATTGT    |     |     |     |     |     |
| murine | 10  | 20                           | 30  | 40  | 50  | 60  | 70  |
|        | TGAAGCAGTCAGTTTGTGACACGAGTTTTTACAATGGACCTGT   | CAGCAAATCTGGGCTTATGCATTGT    |     |     |     |     |     |
| human  | 360   | 370                          | 380 | 390 | 400 | 410 | 420 |
|        | GCTAAGCAAAGCACCCGAACTAGGAGATACAAATATTCATTATT  | CTGAGGAAGCAGAAGCTGATCTTCCTG  |     |     |     |     |     |
| murine | 80  | 90                           | 100 | 110 | 120 | 130 | 140 |
|        | GCTCAGCAAAGCACCCGAACTAGGTGACACGATATTCATCATTC  | TGAGGAAACAGAAAAGCTGATCTTCCTG |     |     |     |     |     |
| human  | 430   | 440                          | 450 | 460 | 470 | 480 | 490 |
|        | CAC TGGTATCACCCACATCACTGTGCTCCTGTACTCTTGGTACT | CCTACAAAGACATGGTTGCCGGGGGAG  |     |     |     |     |     |
| murine | 150   | 160                          | 170 | 180 | 190 | 200 | 210 |
|        | CAC TGGTACCACCCACATCACTGTGCTCCTGTACTCCTGGTACT | CCTACAAAGACATGGTCGCTGGGGTG   |     |     |     |     |     |
| human  | 500   | 510                          | 520 | 530 | 540 | 550 | 560 |
|        | GTTGGTTCATGACTATGAACATATGGCGTGACGCCGCTGATGTA  | CTTACTATGCCTTGCGGGGCGCAGG    |     |     |     |     |     |
| murine | 220   | 230                          | 240 | 250 | 260 | 270 | 280 |
|        | GTTGGTTCATGACTATGAACATATGGCGTGATGCCGCTTACTAC  | GCCTTACTACGCCTTGCGGGGCTGCGGG |     |     |     |     |     |

**Fig. 18J**

|        |  |                              |     |     |     |     |     |
|--------|--|------------------------------|-----|-----|-----|-----|-----|
| human  | 570  | 580                          | 590 | 600 | 610 | 620 | 630 |
|        | TTTCCGAGTCTCCCGGAAGTTTGCCATGTTTCATCACCTTGTC    | CCAGATCACTCAGATGCTGATGGGCTGT |     |     |     |     |     |
| murine | 290  | 300                          | 310 | 320 | 330 | 340 | 350 |
|        | TTTCCGAGTCTCCCGGAAGTTTGCCATGTTTCATCACCTTGTC    | CCAGATCACTCAGATGCTGATGGGCTGT |     |     |     |     |     |
| human  | 640  | 650                          | 660 | 670 | 680 | 690 |     |
|        | GTGGTTAACTACCTGGTCTTCTGCTGGATGCAGCATGAC----    | CAGTGTCACTCTCACTTTCAGAAACA   |     |     |     |     |     |
| murine | 360  | 370                          | 380 | 390 | 400 | 410 | 420 |
|        | GTCATTAACTACCTGGTCTTCAACTGGATGCAGCATGACAACGAC  | AGTGTACTCCCACTTTCAGAAACA     |     |     |     |     |     |
| human  | 700  | 710                          | 720 | 730 | 740 | 750 | 760 |
|        | TCTTCTGGTCCCTCACTCATGTACCTCAGCTACCTTGTCCTCTTCT | GCCATTTCTTGTAGGCCCTACAT      |     |     |     |     |     |
| murine | 430  | 440                          | 450 | 460 | 470 | 480 | 490 |
|        | TCTTCTGGTCCCTCGCTCATGTACCTCAGCTACCTTGTCCTCTTCT | GCCATTTCTTGTAGGCCCTACAT      |     |     |     |     |     |
| human  | 770  | 780                          | 790 |     |     |     |     |
|        | CGGCAAAATGAGGAAAAACAACGAAAGCTGAA               |                              |     |     |     |     |     |
| murine | 500  | 510                          | 520 |     |     |     |     |
|        | CGGCAAAAGTGAAGAAAGCCACGAAAGGCTGAG              |                              |     |     |     |     |     |

**Fig. 18K**

[illegible]

**Fig. 18L**



```

270      280      290      300      310      320
I400 ATTTGATACCAAAGCCTGAAGCAGTCAGTTG--TGACCAGGGTTTTTACAATGGAC-CTGTCAGCA
    .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .:
CIG30 GTGATGTTTACAGTGGGCTCAAGCAAACCGTGTGCTTTGCCA--TCTACACGGATGACGCCGTAGTCA
280      290      300      310      320      330      340

330      340      350      360      370      380      390
I400 AATTCTGGGCTTATGCATTTGTGCTAAGCAAAGCACCCGAACTAGGAGATACAATATTCATTCTTGAG
    .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .:
CIG30 GATTCGTGTCCTTTCTCTTCTTCTCTCAGCAAGGTTGTTGAACCTGGGAGACACGGCCTTCATCATCCTGCG
350      360      370      380      390      400      410

400      410      420      430      440      450      460
I400 GAAGCAGAAGCTGATCTTCCCTGCACCTGGTATCACCAATCATCACTGTGCTCCTGTACTCTTGGTACTCCTAC
    .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .:
CIG30 TAAGCGTCCACTCATCTTTGTCCACTGGTACCACCAACAGACAGTGTACTGTTCACAAGCTTTGGATAC
420      430      440      450      460      470      480

470      480      490      500      510      520      530
I400 AAAGACATGGTTGCCGG-GGGAGGTTGGTTTCATGACTATGAACCTATGGCGTGCACGCCGTGATGTACTCT
    .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .: .:
CIG30 AAGAACAAGT-GCCTTCGGGTGGCTGGTTTCATGACCATGAACCTTTGGCGTCCATTCTGTATGTACTACT
490      500      510      520      530      540      550

```

Fig. 18N





Sequence

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| L   | G   | D   | T   | I   | F   | I   | I   | L   | R   | K   | Q   | K   | L   | I   | F   | L   | H   | W   | Y   | 20  |
| CTA | GGT | GAT | ACG | ATA | TTC | ATC | ATT | CTG | AGG | AAG | CAG | AAG | CTG | ATC | TTC | CTG | CAC | TGG | TAC | 60  |
| H   | H   | I   | T   | V   | L   | L   | Y   | S   | W   | Y   | S   | Y   | K   | D   | M   | V   | A   | G   | G   | 40  |
| CAC | CAC | ATC | ACT | GTG | CTC | CTG | TAC | TCT | TGG | TAC | TCC | TAC | AAA | GAC | ATG | GTA | GCT | GGG | GGT | 120 |
| G   | W   | F   | M   | T   | M   | N   | Y   | G   | V   | H   | A   | V   | M   | Y   | S   | Y   | Y   | A   | L   | 60  |
| GGT | TGG | TTC | ATG | ACT | ATG | AAC | TAT | GGC | GTA | CAC | GCC | GTC | ATG | TAC | TCT | TAC | TAC | GCC | TTG | 180 |
| R   | A   | A   | G   | F   | R   | V   | S   | R   | K   | F   | A   | M   | F   | I   | T   | L   | S   | Q   | I   | 80  |
| CGG | GCT | GCG | GGT | TTC | CGG | GTC | TCC | CGG | AAG | TTT | GCC | ATG | TTC | ATC | ACG | TTG | TCC | CAG | ATC | 240 |
| T   | Q   | M   | L   | M   | G   | C   | V   | I   | N   | Y   | L   | V   | F   | N   | W   | M   | Q   | H   | D   | 100 |
| ACT | CAG | ATG | CTG | ATG | GGC | TGT | GTC | ATT | AAC | TAC | CTG | GTC | TTC | AAC | TGG | ATG | CAG | CAT | GAC | 300 |
| N   | D   | Q   | C   | Y   | S   | H   | F   | Q   | N   | I   | F   | W   | S   | S   | L   | M   | Y   | L   | S   | 120 |
| AAT | GAC | CAG | TGC | TAC | TCC | CAC | TTT | CAG | AAC | ATC | TTT | TGG | TCC | TCA | CTC | ATG | TAC | CTC | AGC | 360 |
| Y   | L   | L   | L   | F   | C   | H   | F   | F   | F   | E   | A   | Y   | I   | G   | K   | V   | K   | K   | A   | 140 |
| TAC | CTT | CTG | CTC | TTC | TGC | CAT | TTC | TTC | TTT | GAG | GCC | TAC | ATC | GGC | AAA | GTG | AAG | AAA | GCG | 420 |
| T   | K   | A   | E   | *   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 145 |
| ACG | AAG | GCC | GAG | TAG |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 435 |

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Fig. 18P

|   |     |
|---|-----|
| TGTCAGAGCTGAGGAGGAAAGACATAGCTCAGGGTCATCACGAAAAATAATAGACAAAAAAGAAAAATGGCACAAAGGAATCA | 514 |
| CATATGGTGCAGCTAAACAAACAAACATATAGCAGACGCTAAGCCCAAGCAGCTTGGGAGTGAAGATTAGGTT           | 593 |
| GTAAGTTTATGATCCCTTTTGGGTGAGGACTCACTGAGAACACTGCTGCTGAGGACCCCTTCCCTCTTACCTGTCAA       | 672 |
| CTCTAGAACACACTAGAAGCCAAAGCAGCCCATGGGCAAGGAGATTAGTGGACAGCAAGCAAAACACTGCAGGAAGAGGG    | 751 |
| GGGAGATCTATTTCAGAGTTTTTTGTTTTTGTCTCTAAGGATAAAGGAGTTTCCCCCTTTTCAAACTG                | 830 |
| TGTGAGCACACCCACGCGCATGCAGACACACCCACCTACACACTATCTGCAGATGACCAGTGTCCCTATGCTGTTTTTAC    | 909 |
| AAATAAACTTGAGACAAGAAAAAATAAAAAAAAAAAAAAAAAAAAAAAAAA                                 | 974 |

Fig. 18Q



# Sequence

|   |     |
|---|-----|
| GTCGACCCACGCGTCCGGGAGCGCGGCTAAGAGTGCCGCACCGCCTCACAACCTGGGAACCGGAGAGTAGGGCCGTC   | 79  |
| GGCTGGCAAGAACCCCGGTGCTCCTCGGCAAGGGCCATCCGGTGCCACCCCATGTGCGCACTAGAGCAGAAGAGGGTGA | 158 |
| <div style="text-align: center;">M T W L V</div>                                |     |
| GTCCTGAACCTGCAACCTGCACAGAGCTGCTCTGTACTGTCCCTGGTGGTCCCGCC ATG ACC TGG TTG GTG    | 229 |
| L L G T L L C M L R V G L G T P D S E G   | 25  |
| CTG CTG GGG ACA CTG CTC TGC ATG CTG CGC GTT GGG TTA GGC ACC CCG GAC TCC GAG GGT | 289 |
| F P P R A L H N C P Y K C I C A A D L L   | 45  |
| TTC CCG CCC CGT GCG CTC CAC AAC TGC CCC TAC AAA TGT ATC TGC GCT GCC GAC CTG CTA | 349 |
| S C T G L G L Q D V P A E L P A A T A D   | 65  |
| AGC TGC ACT GGC CTA GGG CTG CAG GAC GTG CCA GCC GAG TTA CCT GCC GCT ACT GCG GAC | 409 |
| L D L S H N A L Q R L R P G W L A P L F   | 85  |
| CTC GAC CTG AGC CAC AAC GCG CTC CAG CGC CTG CGC CCC GGC TGG TTG GCG CCC CTC TTC | 469 |
| Q L R A L H L D H N E L D A L G R G V F   | 105 |
| CAG CTG CGC GCC CTG CAC CTA GAC CAC AAC GAA CTA GAT GCG CTG GGT CGC GGC GTC TTC | 529 |
| V N A S G L R L L D L S S N T L R A L G   | 125 |
| GTC AAC GCC AGC GGC CTG AGG CTG CTC GAT CTA TCA TCT AAC ACG TTG CCG GCG CTT GGC | 589 |

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Fig. 19A

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|
| R   | H   | D   | L   | D   | G   | L   | G   | A   | L   | E   | K   | L   | L   | L   | L   | F   | N   | N   | R   | L    | 145 |
| CGC | CAC | GAC | CTC | GAC | GGG | CTG | GGG | GCG | CTG | GAG | AAG | CTG | CTT | CTG | TTC | AAT | AAC | CGC | TTG | 649  |     |
| V   | H   | L   | D   | E   | H   | A   | F   | H   | G   | L   | R   | A   | L   | S   | H   | L   | Y   | L   | G   | 165  |     |
| GTG | CAC | TTG | GAC | GAG | CAT | GCC | TTC | CAC | GGC | CTG | CGC | GCG | CTC | AGC | CAT | CTC | TAC | CTG | GGC | 709  |     |
| C   | N   | E   | L   | A   | S   | F   | S   | F   | D   | H   | L   | H   | G   | L   | S   | A   | T   | H   | L   | 185  |     |
| TGC | AAC | GAA | CTC | GCC | TGC | TTC | TCC | TTC | GAC | CAC | CTG | CAC | GGT | CTG | AGC | GCC | ACC | CAC | CTG | 769  |     |
| L   | T   | L   | D   | L   | S   | S   | N   | R   | L   | G   | H   | I   | S   | V   | P   | E   | L   | A   | A   | 205  |     |
| CTT | ACT | CTG | GAC | CTC | TCC | TCC | AAC | CGG | CTG | GGA | CAC | ATC | TCC | GTA | CCT | GAG | CTG | GCC | GCG | 829  |     |
| L   | P   | A   | F   | L   | K   | N   | G   | L   | Y   | L   | H   | N   | N   | P   | L   | P   | C   | D   | C   | 225  |     |
| CTG | CCG | GCC | TTC | CTC | AAG | AAC | GGC | CTC | TAC | TTG | CAC | AAC | AAC | CCT | TTG | CCT | TGC | GAC | TGC | 889  |     |
| R   | L   | Y   | H   | L   | L   | Q   | R   | W   | H   | Q   | R   | G   | L   | S   | A   | V   | R   | D   | F   | 245  |     |
| CGC | CTC | TAC | CAC | CTG | CTA | CAG | CGC | TGG | CAC | CAG | CGG | GGC | CTG | AGC | GCC | GTG | CGC | GAC | TTT | 949  |     |
| A   | R   | E   | Y   | V   | C   | L   | A   | F   | K   | V   | P   | A   | S   | R   | V   | R   | F   | F   | Q   | 265  |     |
| GCG | CGC | GAG | TAC | GTA | TGC | TTG | GCC | TTC | AAG | GTA | CCC | GCG | TCC | CGC | GTG | CGC | TTC | TTC | CAG | 1009 |     |
| H   | S   | R   | V   | F   | E   | N   | C   | S   | S   | A   | P   | A   | L   | G   | L   | K   | R   | P   | E   | 285  |     |
| CAC | AGC | CGC | GTC | TTT | GAG | AAC | TGC | TCC | TCC | GCC | CCA | GCT | CTT | GGC | CTA | AAG | CGG | CCG | GAA | 1069 |     |

Fig. 19B



# Figure 19D

| S   | P   | Q     | G   | Q    | A    | S    | T    | S    | T    | *   |      |
|-----|-----|-------|-----|------|------|------|------|------|------|-----|------|
| AGC | CCG | CAA   | GGC | CAA  | GCG  | TCC  | ACA  | AGC  | ACG  | TAG | 456  |
|     |     |       |     |      |      |      |      |      |      |     | 1582 |
| TCT | TCT | GAG   | CC  | CAG  | CGG  | AGG  | CC   | CTCA | ATG  | GC  | 1661 |
|     |     |       |     |      |      |      |      |      |      |     |      |
| CTG | AGC | CTG   | CAG | CTGA | AGG  | CTGG | CTCT | GAG  | TCC  | AG  | 1740 |
|     |     |       |     |      |      |      |      |      |      |     |      |
| CAG | GGC | TCCCC | AC  | CC   | CC   | CC   | CTCT | GTG  | CTG  | CC  | 1819 |
|     |     |       |     |      |      |      |      |      |      |     |      |
| GGT | GG  | AAG   | CAC | TGT  | GC   | CTGG | CC   | CTCG | AA   | AC  | 1898 |
|     |     |       |     |      |      |      |      |      |      |     |      |
| GAC | AGG | GTGT  | GT  | CCCC | AA   | CTGC | CTCT | GTG  | CCCC | CTG | 1977 |
|     |     |       |     |      |      |      |      |      |      |     |      |
| CTA | GT  | TC    | CTG | CTT  | CCCC | GG   | ACTT | CC   | TA   | GT  | 2056 |
|     |     |       |     |      |      |      |      |      |      |     |      |
| AC  | A   | CAG   | CAC | AG   | CTGT | GG   | AG   | CTGT | GA   | AG  | 2135 |
|     |     |       |     |      |      |      |      |      |      |     |      |
| TC  | AGG | GG    | CTG | AGG  | AG   | GTGG | GTG  | CTCA | AG   | AG  | 2214 |
|     |     |       |     |      |      |      |      |      |      |     |      |
| GG  | AG  | TGG   | GG  | CC   | CA   | AGG  | GG   | CTCT | GA   | AG  | 2293 |
|     |     |       |     |      |      |      |      |      |      |     |      |
| CCG | CC  | CTCT  | GG  | TAA  | TGG  | ACTC | CC   | CTCA | CC   | CA  | 2372 |
|     |     |       |     |      |      |      |      |      |      |     |      |
| GG  | TG  | CC    | AGG | CA   | AGG  | CTC  | CT   | CA   | AG   | AG  | 2451 |

Fig. 19D



TCCTGCGCCTGGGGCATCCACCCGTTGTTCTGAAGCAGAGCCCATTTCTGTGGGCTCACAAAGACACAGTGAAGGGGATC 2530  
 ATGGCCCTGCACCCCTGCTTTTCAGCAGTAAAAAGCCCGAAAAAGCCTGGCGAGCATGGCCGAGCTGGGAGGGCCGAGCCG 2609  
 GAACTCCACGTCCCTCGAGAGCAGGAGCCCTCTTAAGGGCTGGCACTGGTCTCAGCCCTAATGGCTGAGGCGGTACCCCTGG 2688  
 CTTCATATGCATCTCACTGCTCCCACTGCAGGGGGGCAGGGAAGGGGGTCTGGGAGCCCTTCATGTGTGGGGGCCGAG 2767  
 CTGGGGGCCCCCATGGCCATCCTGGACCTCGCTGCTCCAGAGTTTAATAAAGGTAGCACATGCTTATTGCTAGAAAAAA 2846  
 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAGGGCGGCCGC 2895

**Fig. 19E**

FIG. 19F

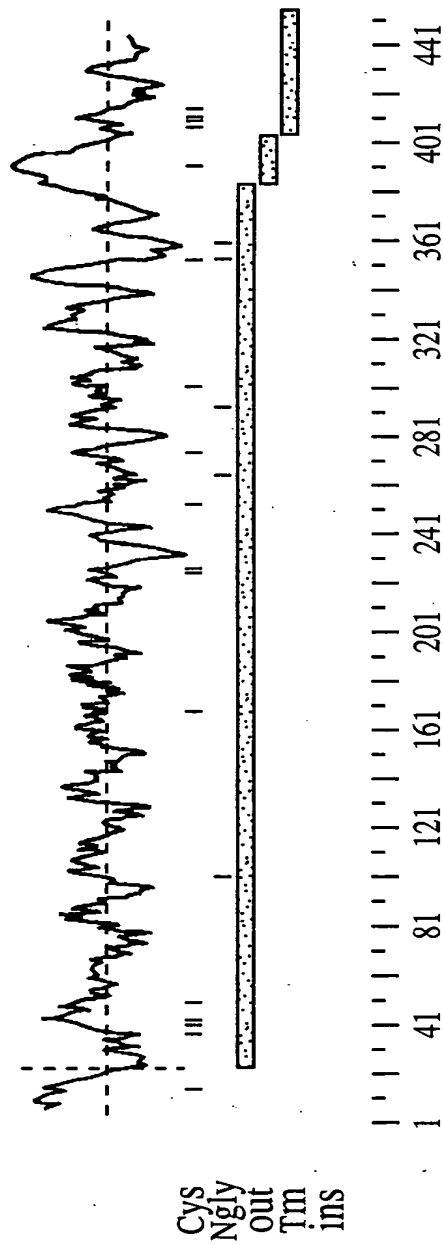


FIG. 19F



**Fig. 19H**

# Sequence

ccg ttt ctc ttt aac cac ttg cac ggt ctg ggg tta acc cgc ctg cgg 48  
 Pro Phe Leu Phe Asn His Leu His Gly Leu Thr Arg Leu Arg 15  
 1 5 10

act ctg gac ctc tcc tcc aac tgg ctg aaa cat atc tcc atc cct gag 96  
 Thr Leu Asp Leu Ser Ser Asn Trp Leu Lys His Ile Ser Ile Pro Glu 30  
 20 25

ttg gct gca ctg cca act tat ctc aag aac agg ctc tac ctg cac aac 144  
 Leu Ala Ala Leu Pro Thr Tyr Leu Lys Asn Arg Leu Tyr Leu His Asn 45  
 35 40

aac ccg ctg ccc tgt gac tgc agc ctc tac cac ctg ctc cgg cgc tgg 192  
 Asn Pro Leu Pro Cys Asp Cys Ser Leu Tyr His Leu Leu Arg Arg Trp 60  
 50 55

cac cag cgg ggc ctg agt gcc ctg cat gat ttt gaa cgc gag tac aca 240  
 His Gln Arg Gly Leu Ser Ala Leu His Asp Phe Glu Arg Glu Tyr Thr 80  
 65 70

tgc ttg gtc ttt aag gtg tca gag tcc cga gtg cgc ttt ttt gag cac 288  
 Cys Leu Val Phe Lys Val Ser Glu Ser Arg Val Arg Phe Phe Glu His 95  
 85 90

agc cgg gtc ttc aag aac tgc tct gtg gct gca gct cca ggc tta gag 336  
 Ser Arg Val Phe Lys Asn Cys Ser Val Ala Ala Ala Pro Gly Leu Glu 105  
 100 110

Fig. 19I



# Figure 19K

|   |     |
|---|-----|
| ctg gtg ctg gtg ttg ctg tac ttg ttt gca cca ccc tgt cgt ggc tgc<br>Leu Val Leu Val Leu Leu Tyr Leu Phe Ala Pro Pro Cys Arg Gly Cys<br>225 230 235 240 | 720 |
| tgt cac tgc tgt cag cgg gcc ggc tgc cgt aac cgt tgg ccc cgg gca<br>Cys His Cys Cys Gln Arg Ala Cys Arg Asn Arg Cys Trp Pro Arg Ala<br>245 250 255     | 768 |
| tcc agt cca ctc cag gag ctg agc gca cag tcc tcc atg ctt agc act<br>Ser Ser Pro Leu Gln Glu Leu Ser Ala Gln Ser Ser Met Leu Ser Thr<br>260 265         | 816 |
| acg cca cca gat gca ccc agc cgc aag gcc agt gtc cac aag cat gtg<br>Thr Pro Pro Asp Ala Pro Ser Arg Lys Ala Ser Val His Lys His Val<br>275 280 285     | 864 |
| gtc ttc ctg gag ccg ggc aag aag ggc ctc aat ggc cgt gtg cag ctc<br>Val Phe Leu Glu Pro Gly Lys Lys Gly Leu Asn Asn Gly Arg Val Gln Leu<br>290 295 300 | 912 |
| gca gta cct cca gac tcc gat ctg tgc aac ccc atg ggc ttg caa ctc<br>Ala Val Pro Pro Asp Ser Asp Leu Cys Asn Pro Met Gly Leu Gln Leu<br>305 310 315     | 960 |
| aa  | 962 |

Fig. 19K

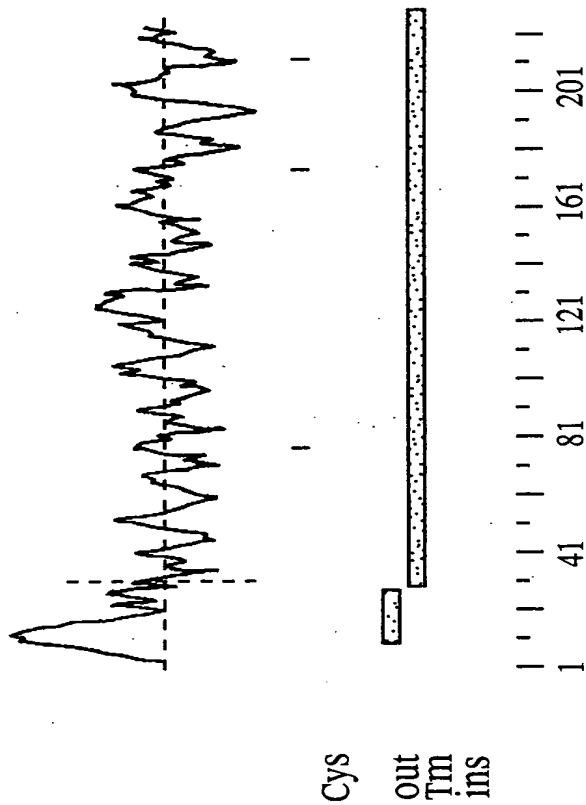


FIG. 19L



Figure 19M

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M 1 .....PFLFNHLHGLGLRLRLTLDLSSNWLKHISI 30
H 151 HAFHGLRALSHLYLGCNELASFSDHLHGLSATHLLTLDLSSNRLGHISV 200

M 31 PELAAALPTYLKNRLYLHNNPLPCDCSLYHLLRRWHQRLSALHDFEREY 80
H 201 PELAAALPAFLKNGLYLHNNPLPCDCRLYHLLQRLWHQRLSAVRDFAREYV 250

M 81 CLVFKVSESVRFFEHRSRVFKNCVAAAPGLELPEEQHQAQVGGSLRLFC 130
H 251 CLAFKVPASRVRFQHSRVFFENCSSAPALGLKRPEEHLYALVGRSLRLYC 300

M 131 NTSVPATRVAVWSPKNELLVAPASQDGSIAVLADGSLAIGRVQEQHAGVF 180
H 301 NTSVPAMRIA WSPQQELLRAPGSRDGSIAVLADGSLAIGNVQEQHAGLF 350

M 181 VCLASGPRLHHNQTL EYNVSVQKARPEPETENTGFTLLGCIVGLVLVLL 230
H 351 VCLATGPRLHHNQTHEYNVSVHFPRPEPEAFNTGFTLLGCAVGLVLVLL 400

M 231 YLFAPPCRGCCCHCCQACRNRCWPRASSPLQELSA.QSSMLSTTPPDAPS 279
H 401 YLFAPPCR...CCRRACPLPPLAPNTQAPAPRAEPHKSSVLSTTPPDAPS 446

M 280 RKASVHKHVVFLEPGKKGLNGRVQLAVPPDSDL CNPMGLQL 320
H 447 PQGQASTST..... 455

```

Fig. 19M

|   |     |     |     |     |     |     |     |     |   |   |   |         |
|---|-----|-----|-----|-----|-----|-----|-----|-----|---|---|---|---------|
|   |     |     |     |     |     |     |     |     |   |   |   | 206/361 |
| GTCGACCCACGCGTCCGGCGAACCCAGCGTCCGCCGAC  | ATG | GCC | TGG | ACC | AAG | TAC | CAG | CTG | L | F | L | 10      |
|   |     |     |     |     |     |     |     |     |   |   |   | 69      |
| A G L M L V T G S I N T L S A K W A D N   |     |     |     |     |     |     |     |     |   |   |   | 30      |
| GCC GGG CTC ATG CTT GTT ACC GGC TCC ATC AAC ACG CTC TCG GCA AAA TGG GCG GAC AAT |     |     |     |     |     |     |     |     |   |   |   | 129     |
| F M A E G C G G S K E H S F Q H P F L Q   |     |     |     |     |     |     |     |     |   |   |   | 50      |
| TTC ATG GCC GAG GGC TGT GGA GGG AGC AAG GAG CAC AGC TTC CAG CAT CCC TTC CTC CAG |     |     |     |     |     |     |     |     |   |   |   | 189     |
| A V G M F L G E F S C L A A F Y L L R C   |     |     |     |     |     |     |     |     |   |   |   | 70      |
| GCA GTG GGC ATG TTC CTG GGA GAA TTC TCC TGC CTG GCT GCC TTC TAC CTC CTC CGA TGC |     |     |     |     |     |     |     |     |   |   |   | 249     |
| R A A G Q S D S S V D P Q Q P F N P L L   |     |     |     |     |     |     |     |     |   |   |   | 90      |
| AGA GCT GCA GGG CAA TCA GAC TCC AGC GTA GAC CCC CAG CAG CCC TTC AAC CCT CTT CTT |     |     |     |     |     |     |     |     |   |   |   | 309     |
| F L P P A L C D M T G T S L S L M Y V A L N                                     |     |     |     |     |     |     |     |     |   |   |   | 110     |
| TTC CTG CCC CCA GCG CTC TGT GAC ATG ACA GGG ACC AGC CTC ATG TAT GTG GCT CTG AAC |     |     |     |     |     |     |     |     |   |   |   | 369     |
| M T S A S S F Q M L R G A V I I F T G L   |     |     |     |     |     |     |     |     |   |   |   | 130     |
| ATG ACC AGT GCC TCC AGC TTC CAG ATG CTG CGG GGT GCA GTG ATC ATA TTC ACT GGC CTG |     |     |     |     |     |     |     |     |   |   |   | 429     |
| F S V A F L G R R L V L S Q W L G I L A   |     |     |     |     |     |     |     |     |   |   |   | 150     |
| TTC TCG GTG GCC TTC CTG GGC CGG AGG CTG GTG CTG AGC CAG TGG CTG GGC ATC CTA GCC |     |     |     |     |     |     |     |     |   |   |   | 489     |

Fig. 20A

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| T   | I   | A   | G   | L   | V   | V   | G   | L   | A   | D   | L   | L   | S   | K   | H   | D   | S   | Q   | 170 |     |
| ACC | ATC | GCG | GGG | CTG | GTG | GTC | GTG | GGC | CTG | GCT | GAC | CTC | CTG | AGC | AAG | CAC | GAC | AGT | CAG | 549 |
| H   | K   | L   | S   | E   | V   | I   | T   | G   | D   | L   | L   | I   | I   | M   | A   | Q   | I   | I   | V   | 190 |
| CAC | AAG | CTC | AGC | GAA | GTG | ATC | ACA | GGG | GAC | CTG | TTG | ATC | ATC | ATG | GCC | CAG | ATC | ATC | GTT | 609 |
| A   | I   | Q   | M   | V   | L   | E   | E   | K   | F   | V   | Y   | K   | H   | N   | V   | H   | P   | L   | R   | 210 |
| GCC | ATC | CAG | ATG | GTG | CTA | GAG | GAG | AAG | TTC | GTC | TAC | AAA | CAC | AAT | GTG | CAC | CCA | CTG | CGG | 669 |
| A   | V   | G   | T   | E   | G   | L   | F   | G   | F   | V   | I   | L   | S   | L   | L   | L   | V   | P   | M   | 230 |
| GCA | GTT | GGC | ACT | GAG | GGC | CTC | TTT | GGC | TTT | GTG | ATC | CTC | TCC | CTG | CTG | CTG | GTG | CCC | ATG | 729 |
| Y   | Y   | I   | P   | A   | G   | S   | F   | S   | G   | N   | P   | R   | G   | T   | L   | E   | D   | A   | L   | 250 |
| TAC | TAC | ATC | CCC | GCC | GGC | TCC | TTC | AGC | GGA | AAC | CCT | CGT | GGG | ACA | CTG | GAG | GAT | GCA | TTG | 789 |
| D   | A   | F   | C   | Q   | V   | G   | Q   | Q   | P   | L   | I   | A   | V   | A   | L   | L   | G   | N   | I   | 270 |
| GAC | GCC | TTC | TGC | CAG | GTG | GGC | CAG | CAG | CCG | CTC | ATT | GCC | GTG | GCA | CTG | CTG | GGC | AAC | ATC | 849 |
| S   | S   | I   | A   | F   | F   | N   | F   | A   | G   | I   | S   | V   | T   | K   | E   | L   | S   | A   | T   | 290 |
| AGC | AGC | ATT | GCC | TTC | TTC | AAC | TTC | GCA | GGC | ATC | AGC | GTC | ACC | AAG | GAA | CTG | AGC | GCC | ACC | 909 |
| T   | R   | M   | V   | L   | D   | S   | L   | R   | T   | V   | V   | I   | W   | A   | L   | S   | L   | A   | L   | 310 |
| ACC | CGC | ATG | GTG | TTG | GAC | AGC | TTG | CGC | ACC | GTT | GTC | ATC | TGG | GCA | CTG | AGC | CTG | GCA | CTG | 969 |

Fig. 20B

|      |      |      |       |      |       |      |      |      |      |       |       |        |        |       |      |      |      |      |       |      |     |      |
|------|------|------|-------|------|-------|------|------|------|------|-------|-------|--------|--------|-------|------|------|------|------|-------|------|-----|------|
| G    | W    | E    | A     | F    | H     | A    | L    | A    | L    | Q     | I     | L      | G      | F     | L    | I    | L    | L    | I     | G    | T   | 330  |
| GGC  | TGG  | GAG  | GCC   | TTC  | CAT   | GCA  | CTG  | CAG  | ATC  | CTT   | GGC   | TTC    | GGC    | TTC   | CTC  | ATA  | CTC  | CTT  | ATA   | GGC  | ACT | 1029 |
| A    | L    | Y    | N     | G    | L     | H    | R    | P    | L    | L     | L     | G      | R      | L     | S    | R    | G    | R    | P     | L    | 350 |      |
| GCC  | CTC  | TAC  | AAT   | GGG  | CTA   | CAC  | CGT  | CCG  | CTG  | CTG   | GGC   | CGC    | CTG    | TCC   | AGG  | GGC  | CGG  | CCC  | CTG   | 1089 |     |      |
| A    | E    | E    | S     | E    | Q     | E    | R    | L    | L    | G     | G     | T      | R      | T     | P    | I    | N    | D    | A     | 370  |     |      |
| GCA  | GAG  | GAG  | AGC   | GAG  | CAG   | GAG  | AGA  | CTG  | CTG  | GGT   | GGC   | ACC    | CGC    | ACT   | CCC  | ATC  | AAT  | GAT  | GCC   | 1149 |     |      |
| S    | *    |      |       |      |       |      |      |      |      |       |       |        |        |       |      |      |      |      |       | 372  |     |      |
| AGC  | TGA  |      |       |      |       |      |      |      |      |       |       |        |        |       |      |      |      |      |       | 1155 |     |      |
| GGT  | TCC  | CTGG | AGG   | CTT  | CTACT | GCC  | ACCC | GGGT | GTCT | CTCT  | CTG   | AGACT  | GAG    | CCAC  | ACAG | GGCT | GTGG | CCCC | CGAA  | 1234 |     |      |
| TGCC | CTAT | CCCC | AAG   | CCCT | CAC   | CCCT | GTCT | CCCT | CGC  | AGAAC | CCCC  | CAG    | GGC    | AGCT  | GCTG | CCAC | AGAA | GATA | AACA  | 1313 |     |      |
| CCA  | AGT  | CTCT | TTTT  | TTCT | CACT  | ACC  | CTGC | AGGG | TGGT | GTATT | ACCC  | AGCCCC | CCACA  | AGCCT | GAGT | GCAG | TGC  | CAG  | ACCTC | 1392 |     |      |
| AGCT | CTCT | GGAC | CCCT  | CTAC | AGC   | ACT  | AGCT | AAAT | CAAT | GAAGT | TGAAT | TGTAG  | GAATTT | TACC  | ACCG | TAGT | GTAT | CTG  | 1471  |      |     |      |
| AAT  | CATA | AACT | AGATT | TATC | ATA   | AAAA | AAAA | AAAA | AAAA | AAAA  | AAAA  | AGG    | GGCG   | CGC   |      |      |      |      |       | 1518 |     |      |

Fig. 20C



# Sequence

210/361

|  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| GTCGACCCACGCGTCCCGGGACAGCTGGCCTGAAGCTCAGAGCCGGGGCTGGCC | ATG | GCC | CCA | CAC | TGG | 5   |     |     |     |     |     |     |     |     |     |     |     |     |     |
| A  | V   | W   | L   | A   | A   | R   | L   | W   | G   | L   | G   | I   | G   | A   | E   | V   | W   | W   | 25  |
| GCT  | GTC | TGG | CTG | CTG | GCA | AGG | CTG | TGG | GGC | CTG | GGC | ATT | GGG | GCT | GAG | GTG | TGG | TGG | 132 |
| N  | L   | V   | P   | R   | K   | T   | V   | S   | S   | G   | E   | L   | A   | T   | V   | V   | R   | R   | 45  |
| AAC  | CTT | GTG | CCG | CGT | AAG | ACA | GTG | TCT | TCT | GGG | GAG | CTG | GCC | ACG | GTA | GTA | CGG | CGG | 192 |
| S  | Q   | T   | G   | I   | Q   | D   | F   | L   | T   | L   | T   | L   | T   | E   | P   | T   | G   | L   | 65  |
| TCC  | CAG | ACC | GGC | ATC | CAG | GAC | TTC | CTG | ACA | CTG | ACG | CTG | ACG | GAG | CCC | ACT | GGG | CTT | 252 |
| Y  | V   | G   | A   | R   | E   | A   | L   | F   | A   | F   | S   | M   | E   | A   | L   | E   | L   | Q   | 85  |
| TAC  | GTG | GGC | GCC | CGA | GAG | GCC | CTG | TTT | GCC | TTC | AGC | ATG | GAG | GCC | CTG | GAG | CTG | CAA | 312 |
| A  | I   | S   | W   | E   | A   | P   | V   | E   | K   | K   | T   | E   | C   | I   | Q   | K   | G   | K   | 105 |
| GCG  | ATC | TCC | TGG | GAG | GCC | CCC | GTG | GAG | AAG | AAG | ACT | GAG | TGT | ATC | CAG | AAA | GGG | AAG | 372 |
| N  | Q   | T   | E   | C   | F   | N   | F   | I   | R   | F   | L   | Q   | P   | Y   | N   | A   | S   | H   | 125 |
| AAC  | CAG | ACC | GAG | TGC | TTC | AAC | TTC | ATC | CGC | TTC | CTG | CAG | CCC | TAC | AAT | GCC | TCC | CAC | 432 |
| Y  | V   | C   | G   | T   | Y   | A   | F   | Q   | P   | K   | C   | T   | Y   | V   | V   | S   | A   | A   | 145 |
| TAC  | GTC | TGT | GGC | ACC | TAC | GCC | TTC | CAG | CCC | AAG | TGC | ACC | TAC | GTC | GTG | AGT | GCT | GCC | 492 |

Fig. 21A

# LOC101928560

L P R C P P Q P A L L T L L L W T R G C G 165  
 CTA CCT CGG TGT CCC CAG CCC CCC GGC CTC CTC ACC CTT CTC TGG ACT CGT GGA TGT GGC 552  
  
 P Q S P A L K H L L I T S L S V L R T C 185  
 CCA CAG AGC CCT GCC CTT AAG CAT CTC CTC ATC ACC TCT CTC TCT GTC CTT AGA ACA TGC 612  
  
 S P S L W S M E S L K M G R A S V P M T 205  
 TCA CCT TCA CTT TGG AGC ATG GAG AGT TTG AAG ATG GGA AGG GCA AGT GTC CCT ATG ACC 672  
  
 Q L R A M L A F L W M V S C T R P H S T 225  
 CAG CTA AGG GCC ATG CTG GCC TTC TTG TGG ATG GTG AGC TGT ACT CGG CCA CAC TCA ACA 732  
  
 T S W A R N P L S C V T W G P T P \* 244  
 ACT TCC TGG GCA CGG AAC CCA TTA TCC TGC GTA ACA TGG GGC CCC ACC ACT CCA TGA 789  
  
 AGACAGAGTACCTGGCCCTTTTGGCTCAACGAACCTCACTTTGTAGGCTCTGCCCTATGTACCTGAGAGTGTGGGCAGCTT 868  
  
 CACGGGGACGACGACAAGTCTACTTCTTTCAGGGAGCGGGCAGTGGAGTCCGACTGCTATGCCGAGCAGGTGGTG 947  
  
 GCTCGTGTGGCCCCGTCTGCAAGGGCGATATGGGGGGCGCACGGACCCCTGCAGAGGAAGTGGACCACGTTCTCTGAAGG 1026  
  
 CGCGGCTGGCATGCTCTGCCCCCGAACTGGCAGCTCTACTTCAACCCAGCTGCAGGCGATGCACACCCCTGCAGGACACCTC 1105

Fig. 21B

CTGGCACAACACACCTTCTTTGGGGTTTTCAAGCACAGTGGGTGACATGTACCTGTGCGCCATCTGTAGTACCAG 1184  
 TTGGAAGAGATCCAGCGGGTGTGTGAGGGCCCCCTATAAGGAGTACCATGAGGAAGCCAGAAAGTGGACCCGCTACACTG 1263  
 ACCCTGTACCCAGGCCCCCTGGTTGTGATGGCTGCCCCAGCCCCGCCCATGCCGGGGCCCTACCACCTGCTTTTCAGAGGAGCAG 1342  
 GGGGCGCGGCTGGCTGCTGAAGGCTACCTTGTGGCTGTCTGTGCAGGCCCCGTCGGTGACCTTGGAGGCCCCGGGCCCCCCC 1421  
 TGGAAAACCTGGGGCTGGTGTGGCTGGCGGCTGGTGGCCCTGTGTGCCCTGGTGTGCTGTGCTGTGCTGCTGTC 1500  
 ATTCGCCCGCGGCTGCGGGAAGAGCTGGAGAAAGGGGCCAAGGCTACTGAGAGGACCTTGGTGTACCCCTGGAGCTG 1579  
 CCCAAGGAGCCACCAAGTCCCCCTTCCGGCCCTGTCTGAACCAGATGAGAAACTTTGGGATCCTGTGCGTTACTACT 1658  
 ATTCAGATGGCTCCCTTAAGATAGTACCTGGGCATGCCCGGTGCCAGCCCGGTGGGGGCCCCCTTCGCCACCTCCAGG 1737  
 CATCCAGGCCAGCCTCTGCCCTTCTCCAACCTCGGCTTCACCTGGGGGTGGGCGGAACCTCAAATGCCAATGGTTACGTG 1816  
 CGCTTACAACCTAGGAGGGAGGACCGGGAGGGCTCGGGCACCCCCCTGCCCTGAGCTCGCGGATGAACCTGAGACGCAAAC 1895  
 TGCAGCAACGCCAGCCACTGCCCGACTCCAACCCGAGGAGTCATCAGTATGAGGGGAACCCCCACCGCTCGGCGGGA 1974  
 AGCGTGGGAGGTAGCTCCTACTTTTGACACAGGCACCAGCTACCTCAGGGACATGGCACGGGCACCTGCTCTGTCTGG 2053

Fig. 21C



GACAGATACTGCCAGCACCCACCGGCCATGAGGACCTGCTCTGCTCAGCACGGGCACTGCCACTTGGTGTGGCTCAC 2132  
 CAGGGCACCGCCTCGCAGAAGGCATCTTCCTCTCTGTGAATCACAGACACGCGGGACCCAGCCGCCAAAACCTT 2211  
 TCAAGGCAGAAAGTTTCAAGATGTGTGTTTGTCTGTATTTGCACATGTGTTTGTGTGTGTATGTGTGTGCACGC 2290  
 GCGTGCCGCGCTTGTGGCATAAGCCTTCCTGTTTCTGTCAAGTCTTCCCTTGGCCTGGGTCCCTGGTGAGTCATTGGAG 2369  
 CTATGAAGGGGAAGGGTCTGTATCACTTTGTCTCTCTACCCCCACTGCCCCGAGTGTGCGGCAGCGATGTACATATGG 2448  
 AGGTGGGTGGACAGGGTGCTGTGCCCTTCAGAGGGAGTGCAGGGCTTGGGGTGGGCCCTAGTCCTGCTCCTAGGGCTG 2527  
 TGAATGTTTTACAGGTGGGGGAGGAGATGGAGCCTCCTGTGTGTTTGGGGGAAGGTTGGTGGGGCCTCCCACTTG 2606  
 GCCCCGGGTTACGTGGTATTTATATACTTGCCCTTCTTCTGTACAGGGCTGGGAAAGGCTGTGTGAGGGGAGAGAAGG 2685  
 AGAGGTGGGCGCTGCTGTGACAATGGCATACTCTCTTCCAGCCCTAGGAGAGGGCTCCTAACAGTGTAACTTATTGT 2764  
 GTCCCCGCGTATTATTGTTGTAAATATTTGAGATTTTATATTGA 2811

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Fig. 21D





## Sequence

```
710      720      730      740      750      760      770
M ASERTLVYPLELPKEPASPPFRPGPETDEKLWDVPVGYYSYSDGSLKIVPGHARCQPGGGPPSPPPGIPGQP
H -----W-----GPTP-----
      :
      ::
      ::
      240

780      790      800      810      820      830
M LPSPTRLHLGGGRNSNANGYVRLQLGGEDRGSGHPLPELADELRRKLQQRQLPDSNPPESSV
H -----
```

Fig. 21H

# Figure 21G

```

360      370      380      390      400      410      420
M QAQWARYTDPVSPRPGSCINNWHRDNGYTSSLELPDNTLNFIKKHPLMEDQVKPRLGRPLLKKNTNF
  ::      ::      .      ::      ::      ::      ::
H ----WTR-----GCGPQ-----SPAL-----KH-----LLI---TSL
160      170

430      440      450      460      470      480      490
M THVVADRVPGLDGATYTVLFIGTGDGWLKAVSLGPWIHMVEELQVFDQEPVESLVLSQSKKVLFAGSRS
  .      .      .      .      .      .      .
H S-----VLRTCSPSLW-----SMESLKMGRA-----SVPMT
180      190      200

500      510      520      530      540      550      560
M QLVQLSLADCTKYRFCVDCVLARDPYCAWNVNTSRCVATTSGRSGSFLVQHVANLDTSKMCNQYGIKKVR
  ::      ::      :      :      :      :      :
H QLRAM-LA-----F-----L-----WMVSCTRPHSTTS-----
210      220

570      580      590      600      610      620      630
M SIPKNITVVSGETDLVLPCHLSSNLAAHAWTFGSQDLPAEQPGSFLYDTGLQALVVMAAQSRHSGPYRCYS
  :

H -----W-----

640      650      660      670      680      690      700
M EEQGTRLAAESYLVAVVAGSSVTLEARAPLENGLVWLAVVALGAVCLVLLLLVLSLRRRLREELEKGAK
  ::      ::      ::      ::      ::      ::
H -----ARNPLS-----CVT-----
230

```

Fig. 21G

Figure 10: 3D model

```

10      20      30      40      50      60      70
M GGCACGAGGTGCCCGGAGTCAAACGCGAGGGCAGCGCCAGGGATTGGAGCTGCACGAAAGAGGGCTGCTG
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H GTC-----GACC-----CACG-----CGTC-----CGCG-----GGACAGCTG
10      20
80      90      100     110     120     130     140
M GACTGAAGTTTAGACCCCTGGGTGCTGCCATGGCCCCACACTGGGCTGTCTGGCTGTGGCAGCAGGGCT
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H GCCTGAAGCTCAGAGCCGGGGCGTGGCCCATGGCCCCACACTGGGCTGTCTGGCTGTGGCAGCAAGGCT
30      40      50      60      70      80      90
150     160     170     180     190     200     210
M GTGGGGCCCTGGGCATCGGGGCTGAGATGTGGTGAACCTTGTGCCCCGGAAGACAGTATCTTCTGGGGAG
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H GTGGGGCCCTGGGCATTTGGGGCTGAGGTGTGGTGAACCTTGTGCCCCGTAAGACAGTGTCTTCTGGGGAG
100     110     120     130     140     150     160
220     230     240     250     260     270     280
M CTGGTCACAGTAGTGAGGCGGTTCTCCCAGACAGGCATCCAGGACTTCCTGACACTGACCCCTGACAGAAC
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H CTGGCCACGGTAGTACGGCGGTTCTCCCAGACCGGCATCCAGGACTTCCTGACACTGACGCTGACGGAGC
170     180     190     200     210     220     230
290     300     310     320     330     340     350
M ATTCTGGCCCTTTATATGTGGGGCCCGAGAGCGGCTGTTTGCCTTCAGTGTAGAGGCTCTGGAGCTGCA
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H CCACTGGGCTTCTGTACGTGGGGCCCGAGAGGCCCTGTTTGCCTTCAGCATGGAGGCCCTGGAGCTGCA
240     250     260     270     280     290     300

```

Fig. 21I

```

360      370      380      390      400      410      420
M AGGAGCGATCTCTTGGAGGCTCCAGCTGAGAAGAAATTGAATGTACCCAGAAAGGGAAGCAACCAG
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H AGGAGCGATCTCTTGGAGGCCCCCGTGGAGAAGAACTGAGTGTATCCAGAAAGGGAAGCAACCAG
310      320      330      340      350      360      370

430      440      450      460      470      480      490
M ACCGAATGCTTCAACTTCATCCGCTTCCTTCAGCCATACAATTCTCCCATCTGTATGTCTGCGGCACCT
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H ACCGAGTGCTTCAACTTCATCCGCTTCCTGCAGCCCTACAATGCCTCCACCTGTACGTCTGTGGCACCT
380      390      400      410      420      430      440

500      510      520      530      540      550      560
M ATGCCTTCCAGCCCAAGTGCACCTACATCAACATGCTCACGTTACCTTGGACCGTGCAGAAATTGAGGA
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H ACGCCTTCCAGCCCAAGTGCACCTACGTCG-----TGA---GTGC-----
450      460      470      480

570      580      590      600      610      620      630
M TGGGAAGGGTAAATGCCCATATGACCCAGCTAAGGGTCACACCGGACTCCTTGTGGACGGTGAGCTGTAC
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H -----TGCCCT-----CCTACCTCGGTGTC-C-CCAGCCCC-----CG-----C
490      500      510

640      650      660      670      680      690      700
M TCAGCCACACTCAATAACTTCTGGCACAGAGCCGGTTATCCTTCGATACATGGGACCCACCACTCCA
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H CCT-CCTCACCC---TTCT--CTGGACTCGTGG-----ATGTGG-CCCAC-----
520      530      540      550

```

Fig. 21J

```

710      720      730      740      750      760      770
M TCAAGACAGATACCTGGCTTTTGGCTGAATGAACCCACTTTGTAGGCTCTGCCCTTGTCCCTGAGAG
   :::::  :: :::::  :: :::::  :: :::::  :: :::::  :: :::::  :: :::::
H -----AGAGCCCTGCCCTTAAGC-----ATCTCCTCATCAC---CTCTCTCTGTCC-TTAGA-
560      570      580      590      600

780      790      800      810      820      830      840
M TGTGGGAAGCTTACGGGAGACGATGACAAGATCTACTTCTTCTCAGTGAGCGGCAGTGGAGTATGAC
   :::::  :: :::::  :: :::::  :: :::::  :: :::::  :: :::::  :: :::::
H -----ACATGCTCACCTTCA-CTT-TG-GAGCA---TGGAGAGTTTGA-
610      620      630      640

850      860      870      880      890      900      910
M TGCTATTCCGAGCAGGTGGTGGCTCGTGTGGCGAGAGTCTGTAAGGTGACATGGGGGAGCACGGACGC
   :::::  :: :::::  :: :::::  :: :::::  :: :::::  :: :::::  :: :::::
H -----AGATGG-----GAAGGGCAAGTGTG-----CTATGACCCC
650      660      670

920      930      940      950      960      970      980
M TGCAGAAAGAAATGGACGACGTTCCCTGAAGGCTCGGTGGTGTGCTCAGCCCCCTGACTGGAAGGTCTACTT
   :::::  :: :::::  :: :::::  :: :::::  :: :::::  :: :::::  :: :::::
H AGCTAAGGGCCATGCTGGCCCTTCTTGT-GGATGGTGAGCTGTACTCGGCCAC--ACT-----CAACAA
680      690      700      710      720      730

990      1000     1010     1020     1030     1040     1050
M CAACCAGCTGAAGCGGTGCACACCCCTGCGGGCGCCTCTTTGGCACAACACCACCTTCTTCGGGTTT
   :::::  :: :::::  :: :::::  :: :::::  :: :::::  :: :::::  :: :::::
H CTTCCCTG-----GGCA-----CGGAAC-CCA-TTATC-----CTGCG-----TAA
740      750      760

```

Fig. 21K



```

1060      1070      1080      1090      1100      1110      1120
M CAAGCGGATGGGGCGATATGGACCTGTCTGCAGTTTGTGAGTACCAGTTGGAACAGATCCAGCAAGTGT
::      :::::      ::      ::::      ::::      :      ::::
H CA-----TGGGGC-----CC--C-----ACCA-----C---TCCA-----
770

1130      1140      1150      1160      1170      1180      1190
M TTGAGGTCCTACAAGGAGTACAGTGAGCAAGCCAGAAAGTGGCCCGCTATACTGACCCGGTACCCAG
:::::      ::      :::::      :::::      .. ::::      :      ::      ::      :
H -TGAAG-----ACA--GAGTAC-----CTGGCC--T---TTTGGCTCAACGAACCTCACTTTGTA---GG
790      800      810      820      830

1200      1210      1220      1230      1240      1250      1260
M CCTCGGCTTGGTTCGTGTATCAACAACCTGGCACCAGACAATGGCTACACCAGTTCCCTGGAACCTGCCG
:      ::      :::::      :::::      :::::      ::      ::      ::      ::      :
H C--TCTGCCTA-----TGTA-C-----CTGA-----GAGT-GTGGGCAGCTTCA---CGGGGGACGAC--
840      850      860      870      880

1270      1280      1290      1300      1310      1320      1330
M GACAACACCCCTCAACTTCATCAAGAAGCACCCTCTGATGGAGGACCAGGTGAAGCCTCGGTTGGGCCGCC
:::::      :      :::::      :::::      :::::      :::::      :      ::
H GACAAGGTCTACTTCTTCTTCAGGGAGC-----GGGC--AGTGGAGTC-CGA-----
890      900      910      920

1340      1350      1360      1370      1380      1390      1400
M CCTTACTTGTGAAGAAGAACTAACTTCACACACGTGTGTGGCCGACAGGGTCCAGGGCTTGATGGTGC
:::::      ::      ::      ::      :::::      ::      ::      ::      :
H --CTGCTA-----TGC--CGAGCAGGTGTGGC-----TC-----GTGTGGC
930      940      950

```

Fig. 21L

```

1410      1420      1430      1440      1450      1460      1470
M CACCTATACAGTGTGTTTCATTGGGTACAGGAGATGGCTGGCTGCTGAAGGCTGTGAGCCCTGGGCCCTGG
: . . . . . : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H C--CGTGTCTG-----CAAGGG--C--GATATGGGGGC-----GCA-----C--GGACCCCTG-
960      970      980      990

1480      1490      1500      1510      1520      1530      1540
M ATCCACATGGTGAGGAACTGCAGGTGTTTGACCAGGAGCCAGTGGAAGTCTGGTGTCTCTCAGAGCA
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H -----GAGGAA-----GTG---GACCACGTTCCTG---AAGGC---GCGG---CTG-GCA
1000      1010      1020      1030

1550      1560      1570      1580      1590      1600      1610
M AGAAGGTGCTCTTTGCTGGCTCCCGCTCTCAGCTGTTTCAGCTGTCTCTGGCCGACTGCACAAAGTACCG
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H -----TGCTCT-----GC-CCCGAACT-GGCAG-CTCTACT-TCA---ACCAGCTGCA---GG---CG
1040      1050      1060      1070      1080

1620      1630      1640      1650      1660      1670      1680
M TTTCTGTAGACTGTGTCCTGGCCAGGACCCTTACTGTGCCTGGAATGTCAACACCAGCCGCTGTGTG
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H ATGC-----ACA---CCCTG--CAGGACACCT-----CCTGGCA---CAACACCACCTTCTTTGGG
1090      1100      1110      1120      1130

1690      1700      1710      1720      1730      1740      1750
M GCCACCACCAAGTGGTCGCTCGGGGTCCTTCTGGTCCAACATGTGGCGAAGTGTGACACTTCAAAGATGT
: . . . . . : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H GTTT--TTCAA-----GCACAGTGG-----GGT--GACATGTACCTGTC---GGC-CATCTG---TGA
1140      1150      1160      1170

```

Fig. 21M

```

1760      1770      1780      1790      1800      1810      1820
M GTAACCAAGTATGGCATTAATAAAGTCAGATCTATTCCCAAGAACAATCACCGTTGTGTGTCAGGCACAGACCT
::: ::::: :::      ::: :::::      ::: :::      ::: :::
H GTA-CCAGT-TGG-----AAG--AGATC-----CAGCG--GGTGTTTGAGG-----
1180      1190      1200      1210

1830      1840      1850      1860      1870      1880      1890
M GGTCCTACCCCTGCCACCTCTCGTCCAATTGGCCCATGCCCACTGGACCTTCGGAAGCCAGGACCTGCCT
:::      :::      :::      :::      :::      :::      :::
H -----GCC-----CCTATAAGGA--GTACC--ATGA-----GGAAGC-----CCA
1220      1230      1240

1900      1910      1920      1930      1940      1950      1960
M GCAGAACAACCTGGCTCCTTTCTTTATGACACGGGACTCCAGGCGCTGGTGTGATGGCCGCACAGTCCC
: ::::: ::::: ::::: : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H GAAGTGGGACC--GCTAC--ACT---GACCCCTGTAC-CCAGGCCCTGGTGTGATGGCTGCCCCAGCCCC
1250      1260      1270      1280      1290      1300

1970      1980      1990      2000      2010      2020      2030
M GTCACCTCTGGACCCCTATCGTTGCTATTTCAGAGGAGCAGGGGACAAAGACTGGCTGCAGAAAGTACCTTGT
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H GCCATGCCGGGGCCTACCACTGCTTTTCAGAGGAGCAGGGGCGCGGCTGGCTGCTGAAGGCTACCTTGT
1310      1320      1330      1340      1350      1360      1370

2040      2050      2060      2070      2080      2090      2100
M TGCTGTCTGGCCGGCTCGTCGGTGACACTGGAGGCACGGGCTCCCTTGGAAACCTGGGGCTCGTGTGG
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H GGCTGTCTGGCAGGCCCGTCGGTGACCTTGGAGGCCCGGGCCCCCTGGAAACCTGGGGCTGGTGTGG
1380      1390      1400      1410      1420      1430      1440

```

Fig. 21N

**Fig. 210**

|   |  |      |      |      |      |      |      |      |
|---|--|------|------|------|------|------|------|------|
| M | CTCAAATGCCAAATGGTTATGTGCGTTTACAGTTGGCGGAGAGGACCGAGGAGGATCTGGGCACCCACTG           | 2460 | 2470 | 2480 | 2490 | 2500 | 2510 | 2520 |
|   | :: |      |      |      |      |      |      |      |
| H | CTCAAATGCCAAATGGTTACGTGCGCTTACAAC TAGGAGGGAGGACCGGGAGGGCTCGGGCACCCCTCG           | 1800 | 1810 | 1820 | 1830 | 1840 | 1850 | 1860 |
|   | 2530   | 2540 | 2550 | 2560 | 2570 | 2580 | 2590 |      |
| M | CCTGAGCTCGCGGATGAATTACGACGGAAC TACAACAGCGCCAGCGCTGCCCTGACTCCAACCCAGAGG           |      |      |      |      |      |      |      |
|   | :: |      |      |      |      |      |      |      |
| H | CCTGAGCTCGCGGATGAAC TGAACGCAAACTGCAGCAACGCCAGCCACTGCCCGACTCCAACCCCGAGG           | 1870 | 1880 | 1890 | 1900 | 1910 | 1920 | 1930 |
|   | 2600   | 2610 | 2620 | 2630 | 2640 | 2650 |      |      |
| M | AGTCTTCAGTATGAGGGACCCCCACCTCAT TGGCGGGGGGGTCTCATGGGAGGTGCA-CTCTTAA               |      |      |      |      |      |      |      |
|   | :: |      |      |      |      |      |      |      |
| H | AGTCATCAGTATGAGGGGAACCCCC-ACCGCG TCGCGGGAAG-----CGTGGGAGGTGTAGCTCCTA-            | 1940 | 1950 | 1960 | 1970 | 1980 | 1990 |      |
|   | 660  | 2670 | 2680 | 2690 | 2700 | 2710 | 2720 |      |
| M | CTTTTGCACAGGCACCCAGCTACCTCAGGGACATGGCAGGGGCACCTTGCTCTGCCCTGGGACAGACACTGCC        |      |      |      |      |      |      |      |
|   | :: |      |      |      |      |      |      |      |
| H | CTTTTGCACAGGCACCCAGCTACCTCAGGGACATGGCAGGGGCACCTGCTCTGTCTGGGACAGATACTGCC          | 2000 | 2010 | 2020 | 2030 | 2040 | 2050 | 2060 |
|   | 730  | 2740 | 2750 | 2760 | 2770 | 2780 | 2790 |      |
| M | CATCATTTGCCCGGCCGTGAGGACCTGCTC ----AGCATGGGCACTGCCACTTGGTGTGGCTCACCAGG           |      |      |      |      |      |      |      |
|   | ::: ::   |      |      |      |      |      |      |      |
| H | CAGCACCCACCCGCCATGAGGACCTGCTCTGCTCAGCACGGGCACTGCCACTTGGTGTGGCTCACCAGG            | 2070 | 2080 | 2090 | 2100 | 2110 | 2120 | 2130 |

**Fig. 21P**

# Figure 21Q

```

2800      2810      2820      2830      2840      2850      2860
M ACTTCAGCCTCACAGGAGACA-CACCCCTCCTCT--GTGAATTGAGACATGTGGACCCAGCAGCCAAA
.. : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H GCACCCAGCCTCGCAGAAGGCATCTTCCTCCTCTCTGTGAATCACAGACACGCGGACCCAGCCGCCAAA
2140      2150      2160      2170      2180      2190      2200

2870      2880      2890      2900      2910      2920
M ACTTTGCAAGGAAGAGGTTTCAAGATGTGGCGGTGTTTGTGCAT--ATATGTGTTGGTATGCATGTGGAA
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H ACTTTTCAAGGCAGAAAGTTTCAAGATGTGTGTTGTTGCTGTATTTGCACATGTGTTGTGTGTGTAT
2210      2220      2230      2240      2250      2260      2270

2930      2940      2950      2960      2970      2980      2990
M GAATGTGTGTGTGTGTG---TGTTGTGTAACTTTCCTGTCTCTATCACGTCTTCCCTTGGCCTGG
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H GTGTGTGTGCACGCGGTGCGCGCTTGTGGCATAAGCCTTCCTGTTTCTGTCAAGTCTTCCCTTGGCCTGG
2280      2290      2300      2310      2320      2330      2340

3000      3010      3020      3030      3040      3050      3060
M GGTCCCTCCTGGTTGAGTCTTTGGAGCTATGAAGGGGAAGGGGTCTATAGCACTTTGCTTCTCCTACCCCC
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H G-TCCCTCCTGGT-GAGTCATTGGAGCTATGAAGGGGAAGGGG-TCGTATCACTTTGTCTCTCCTACCCCC
2350      2360      2370      2380      2390      2400      2410

3070      3080      3090      3100      3110      3120      3130
M AGCTGTCCCAAGCTTTGGGCAGTGATGTACATACGGGAAGGAAGGACAGGGTGTGTACCCCTTTTG
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H A-CTGCCCCGAG-TGTCGGGCAGCGATGTACATATGAGGTGGGGTGGACAGGGTGTGTGCCCCCTTCAG
2420      2430      2440      2450      2460      2470      2480

```

**Fig. 21Q**

```

3140      3150      3160      3170      3180      3190      3200
M GGGAGTCCGGGACTCGGGGTGGCCCTAGCCCTGCTCCTAGGGCTGTGAATGTTTCAGGGCGGGGTT
. . . . . : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H AGGAGTGCAGGCT-TGGGTGGCCCTAGTCTGCTCCTAGGGCTGTGAATGTTTCAGGGTGGGGGA
2490      2500      2510      2520      2530      2540      2550

3210      3220      3230      3240      3250      3260      3270
M GGGGTGGAGATGGAACCTCCTGC--TTCAGGGGAGGGGTGGCAGGGCCTCCCACTTGCCCTCCGGG
. . . . . : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H GGG-----AGATGGAGCCCTCCTGTGTGTTTGGGGGAAGGTGGGTGGGCTCCCACTTGCCCCCGGGG
2560      2570      2580      2590      2600      2610

3280      3290      3300      3310      3320      3330
M TTCGGTGGTATTTTATATTTCGGCTCTTC-TG-ACAGGCTGGGAAGG--TTGTTGGGGAGGGAAGGG
. . . . . : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H TTCAGTGGTATTTTATACTTGCCTTCTTCCTGTACAGGCTGGGAAAGGCTGTGTGAGGGGAGAGAAGGG
2620      2630      2640      2650      2660      2670      2680

3340      3350      3360      3370      3380      3390      3400
M AGGAGTGGGCATGCTATGGATACTGGCCCTATCCTCTCCCTGCTCTGGGAAAAGGCT--AACAGTGTA
. . . . . : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H AGAGGTGGGCCCTGCTGTGGACAATGGCATACTCTCTCCAGCCCTAGGAGAGGGCTCCTAACAGTGTA
2690      2700      2710      2720      2730      2740      2750

3410      3420      3430      3440      3450      3460      3470
M ACTTATGTGTCCCCACATATTATTGTTGTAAATATTGAGTATTTTATATATGACAAATAAAATGGA
. . . . . : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H ACTTATGTGTCCCCGCTATTATTGTTGTAAATATTGAG-ATTTTATATGA-----
2760      2770      2780      2790      2800      2810

```

Fig. 21R

|   |     |
|---|-----|
| GTCGACCCACGCGTCCGCGGACGCGTGCGCGCGGGGGCCATCCAGACCCCTGCGGAGAGCGGCCGAGCGTGGCC      | 79  |
| GAGGTTGAGGGCGCGGAGACCGAGGGCCTGGCGGCCGAAGAACCGCCCCAAGAGACCTCTGGCCCCGGGGCTGC      | 158 |
| TGGAACATGTGCGGGGGACACAGTTTGTGACAGTTGCCAGACT ATG TTT ACG CTT CTG GTT CTA CTC     | 228 |
| S Q L P T V T L G F P H C A R G P K A S   | 28  |
| AGC CAA CTG CCC ACA GTT ACC CTG GGG TTT CCT CAT TGC GCA AGA GGT CCA AAG GCT TCT | 288 |
| K H A G E E V F T S K E E A N F F I H R   | 48  |
| AAG CAT GCG GGA GAA GAA GTG TTT ACA TCA AAA GAA GAA GCA AAC TTT TTC ATA CAT AGA | 348 |
| R L L Y N R F D L E L F T P G N L E R E   | 68  |
| CGC CTT CTG TAT AAT AGA TTT GAT CTG GAG CTC TTC ACT CCC GGC AAC CTA GAA AGA GAG | 408 |
| C N E E L C N Y E E A R E I F V D E D K   | 88  |
| TGC AAT GAA GAA CTT TGC AAT TAT GAG GAA GCC AGA GAG ATT TTT GTG GAT GAA GAT AAA | 468 |
| T I A F W Q E Y S A K G P T T K S D G N   | 108 |
| ACG ATT GCA TTT TGG CAG GAA TAT TCA GCT AAA GGA CCA ACC ACA AAA TCA GAT GGC AAC | 528 |

Fig. 22A



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R E K I D V M G L L T G L I A A G V F L 128  
AGA GAG AAA ATA GAT GTT ATG GGC CTT CTG ACT GGA TTA ATT GCT GCT GGA GTA TTT TTG 588

V I F G L L G Y Y L C I T K C N R L Q H 148  
GTT ATT TTT GGA TTA CTT GGC TAC TAT CTT TGT ATC ACT AAG TGT AAT AGG CTA CAA CAT 648

P C S S A V Y E R G R H T P S I I F R R 168  
CCA TGC TCT TCA GCC GTC TAT GAA AGG GGC AGG CAC ACT CCC TCC ATC ATT TTC AGA AGA 708

P E E A A L S P L P P S V E D A G L P S 188  
CCT GAG GAG GCT GCC TTG TCT CCA TTG CCG CCT TCT GTG GAG GAT GCA GGA TTA CCT TCT 768

Y E Q A V A L T R K H S V S P P P Y P 208  
TAT GAA CAG GCA GTG GCG CTG ACC AGA AAA CAC CAC AGT GTT TCA CCA CCA CCA TAT CCT 828

G H T K G F R V F K K S M S L P S H \* 227  
GGG CAC ACA AAA GGA TTT AGG GTA TTT AAA AAA TCT ATG TCT CTC CCA TCT CAC TGA 885

CTACCTTGTCATTTTGGTATAAGAAAATTTGTGTTATTTGATAGCCGGGCATGGTGGCTCATGCCTGTATCCAGCAC 964

TTTGGGAGGCCAGGAGTTCGAGAGCCAGCCCTGGCCCAACATGGTGAAACCCGGTCTCTACTAAAAATTCAAAAATTACCTA 1043

GGCGTCATGGGGCATGCCCTGTAGTCCCACTACTTGGAGGCTGAAGCAGGAGAATTGCTCGAACCTGGAGGCAGAGG 1122

Fig. 22B

TTGCAAGTAAGCTGAGATCAGCCACTGCATTCCAGCCTGGCGACAGACAAGACTCCATCTCAAAAAATAAAATAAAA 1201  
AAGAAAGAAGAAAAGAAAAGAGAAGGAAGAGATGAAGGAGGAGGAGGAGGAAGAGAGAAGAA 1280  
GAAGAAGAAGACCACAAAAGACATGACTATCCAACCTTTTATGACAAACTGCAAGGAATAAAGGAAGATAAGTCCATG 1359  
TACTGTACCACAGAAAGTTCTGTCTGCATCTTGACACTGAACCTTGATCATTAACAGCTTGATAAGAGACATTTTGGACTCT 1438  
ATATCCTTGCAGTTAAGAAGAAAGCACCTTTTTTGTAATGTTTTTAATGGTTCAAAAAAATCTTTCTTATAAAGAG 1517  
CATAGGTAGAAATTAGTGAACCTTTTGGATCCTTTGTACAGATAAAGGTTATAGATTTCTTGTGTTGAATATTAAAAAAG 1596  
CAAGGATGTCCTAACCATTAAGATTATCCAAAGTCAGGCTGGCGCAGTGGCTCACGCCGTGTAATCCCAGCACCTTTGGGA 1675  
GGGATAGGTGGCGGATCACCTGAGGTCAGGAGTTTGAGACCAGCCTGGCCAACATGGCAAACCCCGTCTCTACAAAA 1754  
ATACAAAAAGAAATTAGCCAGACATGATGGCGGGTGCCCTCTAATCCCAGCTACTGGGGAGGCTGAGGTGGGAGAAATCGCT 1833  
TGAACCTCGGAGGTGGAGGTTGTAGTGAGGCGAGATTGTGCCATTGCACTCCAACCTGGCGACAGAGTGAGACTCCAT 1912  
CTCAAAAAAANAANAAGATTATCCAAAAAGATTATGGACCTACTCTTTCTTAGGATTTTTTGGCGGGGGT 1991  
TAGAAATACCTCACAGAAATTTGACATTTTCAGTATAAATCTGGACCTTAATAATAATCACTTGGTTTATATGTTAAAT 2070  
ATTGCACAGCAGTCATCATATTTTGCAGAGTTTAGTTCTTAACCTTTGCTGTCAGTCAATGTTTATTAATAGGTAGTGG 2149  
GTCAGTAGTTTCTCTCTAAAAAATACTATTTGCTATGAAGTTAGTCTTTCAGAAGATACAAGTTTGCAATGAAAAAG 2228  
GATTGCAAGGGTTGTTATGCTATCAAAATAAACAGACCCTAAAAATCTAGGAGACACTAGAACCTTAATGAAGTTGCCCTG 2307  
TTACTGATTAGTAAATACCTCCCATCTTCGTTGCAAAATATATCTCTGTATAACTACATATGATTATTTGAAATTTGT 2386  
TAAACCTCATAGTAATAGTTTGAGAAATGTGAAAAAGTAATTTGCTTTTCTGCTCTTAAAAATAATATTGATTAATGTT 2465  
ACCAGAAAAAANAANAAGGGCGGGCCG 2498

**Fig. 22C**

102110-06105200

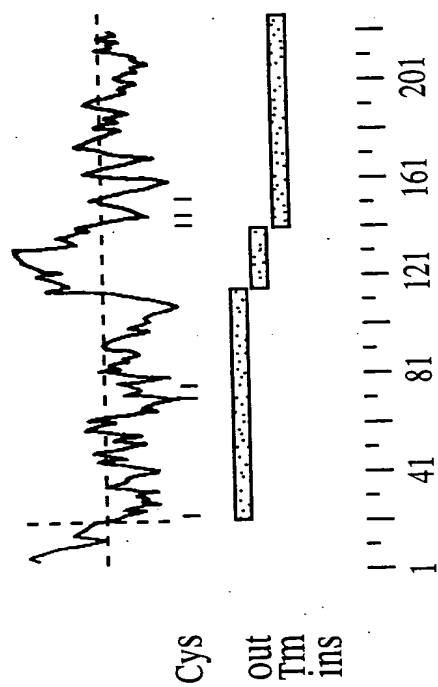


FIG. 22D

|            |            |            |             |            |            |                     |
|------------|------------|------------|-------------|------------|------------|---------------------|
| GTCGACCCAC | GGGTCCGCTG | CGTTCTCACC | CCTGGACCAC  | CCTGGGAGAA | CAGTTGACCG | 60                  |
| AAGTTTGTTT | GGCAGTTGCT | GCTGGACT   | ATG TTT CTG | CTT CTG    | GTA CTC    | 112                 |
|            | Met        | Phe        | Leu         | Leu        | Val Val    | Leu                 |
|            | 1          |            |             |            |            | 5                   |
|            |            |            |             |            |            |                     |
| AGC CAG    | CTG CCC    | AGA CTT    | ACC CTC     | GCG GTT    | CCT CAT    | ACA AGA AGC CTA     |
| Ser Gln    | Leu Pro    | Arg Thr    | Leu Thr     | Ala Val    | Pro His    | Thr Arg Ser Leu     |
|            | 10         |            | 15          |            | 20         |                     |
| AAG AAT    | TCT GAA    | CAT GCC    | CCA GAA     | GGA GTC    | TTT GCA    | TCA AAA AAA GCA     |
| Lys Asn    | Ser Glu    | His Ala    | Pro Glu     | Gly Val    | Phe Ala    | Ser Lys Lys Ala     |
| 25         |            | 30         |             | 35         |            | 40                  |
| GCA AGC    | ATC TTT    | ATG CAC    | CGT CGC     | CTC CTA    | TAC AAT    | AGA TTT GAT TTA     |
| Ala Ser    | Ile Phe    | Met His    | Arg Arg     | Leu Leu    | Tyr Asn    | Arg Phe Asp Leu     |
|            | 45         |            |             | 50         |            | 55                  |
| GAA CTC    | TTC ACT    | CCC GGG    | AAC CTG     | GAG AGA    | GAG TGC    | TAT GAG GAG TTC     |
| Glu Leu    | Phe Thr    | Pro Pro    | Gly Asn     | Leu Leu    | Glu Arg    | Cys Tyr Glu Glu Phe |
|            | 60         |            | 65          |            | 70         |                     |
| TGT AGT    | TAT GAA    | GAA GCC    | AGA GAG     | ATC CTC    | GGG GAC    | AAC GAA GAA ATG     |
| Cys Ser    | Tyr Glu    | Glu Glu    | Ala Arg     | Glu Ile    | Leu Gly    | Asn Glu Glu Met     |
|            | 75         |            | 80          |            | 85         |                     |

Fig. 22E

Sequence Alignment

|   |     |
|---|-----|
| ATC ACA TTC TGG CGG GAA TAT TCA GTC AAA GGA CCA ACC ACA AGA TCA | 400 |
| Ile Thr Phe Trp Arg Glu Tyr Ser Val Lys Gly Pro Thr Thr Arg Ser |     |
| 90  | 100 |
| GAT GTC AAC AAA GAG AAA ATT GAT GTT ATG GGC CTT CTG ACT GGC TTA | 448 |
| Asp Val Asn Lys Glu Lys Ile Asp Val Met Gly Leu Thr Gly Leu     |     |
| 105   | 115 |
| ATT GCG GCT GGA GTA TTC TTG GTT GTT TTT GGC TTA CTT GGT TAC TAT | 496 |
| Ile Ala Ala Gly Val Phe Leu Val Val Phe Gly Leu Gly Tyr Tyr     |     |
| 125   | 135 |
| CTG TGT ATC ACC AAG TGT AAT AGG CAG CCA TAT CAA GGT TCT TCA GCT | 544 |
| Leu Cys Ile Thr Lys Cys Asn Arg Gln Pro Tyr Gln Gly Ser Ser Ala |     |
| 140   | 150 |
| GTC TAC ACA AGA AGG ACC AGG CAC ACA CCG TCC ATC ATT TTC AGA ACC | 592 |
| Val Tyr Thr Arg Arg Thr Arg His Thr Pro Ser Ile Ile Phe Arg Thr |     |
| 155   | 165 |
| CAT GAG GAA GCT GTC TTG TCT CCA TCG TCA TCC TCA GAG GAC GCG GGA | 640 |
| His Glu Glu Ala Val Leu Ser Pro Ser Ser Ser Ser Glu Asp Ala Gly |     |
| 170   | 180 |
|   | 175 |

Fig. 22F

|   |      |
|---|------|
| CTA CCT TCC TAT GAA CAG GCA GTA GCT CTG ACC AGA AAA CAC AGT GTC     | 688  |
| Leu Pro Ser Tyr Glu Gln Ala Val Ala Leu Thr Arg Lys His Ser Val     | 200  |
| 185   |      |
| 190   |      |
| 195   |      |
| TCA CCA CCA CCT CCA TAT CCT GGG CCA GCA AAA GGA TTT AGG GTA TTT     | 736  |
| Ser Pro Pro Pro Pro Tyr Pro Gly Pro Ala Lys Gly Phe Arg Val Phe     | 215  |
| 205   |      |
| 210   |      |
| AAA AAG TCA ATG TCA CTC CCA TCT CAC TAAGCCCACC TTGCCGCCTT           | 783  |
| Lys Lys Ser Met Ser Leu Pro Ser His                                 |      |
| 220   |      |
| 225   |      |
| GCTGTGGTCT GAATAATATG TTCTTCCTGA AACAAACAACA ACAAAAAAAT TTGCCCTGTTT | 843  |
| AGCTTTTAT GACAAAGCAC AAGGAATAAA GGAACACTAT ATACAGAACA GAATTCACCA    | 903  |
| CAGCCCCGCT TTCAGCTCTG CCCCCAACTG GATTGCTGTC TTGGTAAGAG ACTTCTACCG   | 963  |
| TGCTTCCTCG AAGTTAAGAA GAAAGTGCCT TTTTGCAATG TAAACTGTAC TGGTCAAAC    | 1023 |
| ATTCTTGCTA CAGCTAGGTA CCTATAATCC CCACCTTCAG GAGACTTAGG CGGGAGGGAT   | 1083 |
| GAGAGTTCAA GGCCAGCCTG GGCCCTGTCA GGACGCTGTC TCAAAACAACA GTTTGTTATC  | 1143 |
| AATAGAATAA TTAGAATTAA CAAACTAGGA TTTTCAGTCT TAAGTCATGA TATTGGATCT   | 1203 |
| TCTCTTCAGT AAGGTTTCTT TTTGGCTAGA AATACTTCAT AGAATTGAC ATTTTGGTAT    | 1263 |
| ACATCTGTGG CCTTGATACA ATGACTTGAT TTTCTGTTTT AATTAGTGCA GAGGATTGAG   | 1323 |
| CAAATTTGCA GGTCTTCATT TTGTTCCCTC GCTATCCATC GATCATGTTT CAGTGTATTA   | 1383 |
| AGAGGAGTCA GCCAGGCGTG GTGGCCACACA CCTGTGATCC CAGCACTTAG GGGGCATAG   | 1443 |
| GCAGGCAGAT CTCTGTGAGC TGAAGGACAG CCTGGCCCTAC AAAGTCCAGG ACAACCCGAGA | 1503 |
| CCACACAGAG AAACCTTGTC TTGAAAAACA AAACAAAAAC AAGAGAGAGA GAGAGAGAGA   | 1563 |

Fig. 22G

## GenBank

GAGAAAAGAG ATGTCAAGAG GTTTTGTGTT TTTT TTTT AAATTACTAT TTATGGGCCT 1623  
CACTTGGAAA AGTGCTTGCC ATGCAAAATAG AAGGACAGGA GTTCAATCCT CATTACCCAC 1683  
ATTTGAAACA AATAACAAGA AAAACAAACC AAAAACCACAA AACAAACAAA ATCTTGAGAA 1743  
CTTGAGTGAA TACCGGTAAC CTCAGGGCTA GGCACGTGTA CTGAATCAGG AGCCTCCAGA 1803  
TCCAGGGAAA CGCTGTCTCA ACAAATAAAT AAATAAGTAA GTCAGTGAGG TGGTCTTTAA 1863  
ACCCAGCACT TGAGAGCCAA AGCAGGGCAG AGCTCAGTGA GTTGGAGACC AGCCTGGTCT 1923  
ACAAAGCAAG TTCTAAGGGA GCCAGGGCAC AGAGAAACCC TGTCTGAAGG AAAAAA AAAA 1983  
AAAAAAAAG GCGGCGCGC 2002

Fig. 22H

|   |     |  |     |
|---|-----|--|-----|
| G | 1   | ATGTTTCTGCTTCTGGTGGTACTCAGCCAGCTGCCCAGACTTACCCCTCGC  | 50  |
|   |     |  |     |
| H | 1   | ATGTTTACGCTTCTGTTCTACTCAGCCAACTGCCCACAGTTACCCCTGGG   | 50  |
| G | 51  | GGTTCCCTCAT...ACAAGAAGCCCTAAAGAATTCTGAACATGCCCCAGAAG | 97  |
| H | 51  |  |     |
|   |     |  |     |
| G | 98  | GAGTCTTTGCATCAAAAAGCAGCAAGCATCTTTATGCACCGTCGCCTC     | 147 |
| H | 101 | AAGTGTTTACATCAAAAAGAGAAGCAAACTTTTTCATACATAGACGCCTT   | 150 |
| G | 148 | CTATACAATAGATTGATTTAGAACTCTTCACTCCCGGGAACCTGGAGAG    | 197 |
| H | 151 | CTGTATAATAGATTGATCTGGAGCTCTTCACTCCCGGCAACCTAGAAAG    | 200 |
| G | 198 | AGAGTGCTATGAGGAGTTCTGTAGTTATGAAGAAGCCAGAGAGATCCTCG   | 247 |
| H | 201 | AGAGTGCAATGAAGAACTTTGCAATTATGAGGAAGCCAGAGAGATTTTGG   | 250 |

Fig. 22I



|   |     |  |     |
|---|-----|--|-----|
| G | 248 | GGGACAAACGAAAGAAATGATCACATTCTGGCGGGAATATTCAGTCAAAGGA | 297 |
|   |     |  |     |
| H | 251 | TGGATGAAGATAAAACGATTGCATTTTGGCAGGAATATTCAGCTAAAGGA   | 300 |
| G | 298 | CCAACCACAAAGATCAGATGTCAACAAGAGAAAAATTGATGTTATGGGCCT  | 347 |
| H | 301 | CCAACCACAAATCAGATGGCAACAGAGAGAAAAATAGATGTTATGGGCCT   | 350 |
| G | 348 | TCTGACTGGCTTAATTGCGGCTGGAGTATCTTGGTTGTTTGGCTTAC      | 397 |
| H | 351 | TCTGACTGGATTAAATTGCTGCTGGAGTATTTTGGTTATTTTGGATTAC    | 400 |
| G | 398 | TTGGTTACTATCTGTGTATCACCAGTGTAATAGGCAGCCATATCAAGGT    | 447 |
| H | 401 | TTGGCTACTATCTTTGTATCACTAAGTGTAATAGGCTACAACATCCATGC   | 450 |
| G | 448 | TCTTCAGCTGTCTACACAAGAGGACCAGGCACACACCGTCCATCATTTT    | 497 |
| H | 451 | TCTTCAGCCGCTCTATGAAAGGGG...AGGCACACTCCCTCCATCATTTT   | 497 |

Fig. 22J

G 498 CAGAACCCATGAGGAAGCTGTCTTGTCTCCAT...CGTCATCCTCAGAGG 544  
 H 498 CAGAACCCATGAGGAAGCTGTCTTGTCTCCATGCGCCCTTCTGTGGAGG 547

G 545 ACGCGGGACTACCTTCCTATGAACAGGCAGTAGCTCTGACCAGAAACAC 594  
 H 548 ATGCAGGATTACCTTCTTATGAACAGGCAGTGGCGCTGACCAGAAACAC 597

G 595 AGTGCTCACCACCCACCTCCATATCCTGGGCCAGCAAAAGGATTAGGGT 644  
 H 598 AGTGTTTCACCACCCACCATATCCTGGGCACACAAAAGGATTAGGGT 647

G 645 ATTTAAAAAGTCAATGTCACTCCCATCTCAC 675  
 H 648 ATTTAAAAATCTATGTCTCTCCCATCTCAC 678

Fig. 22K



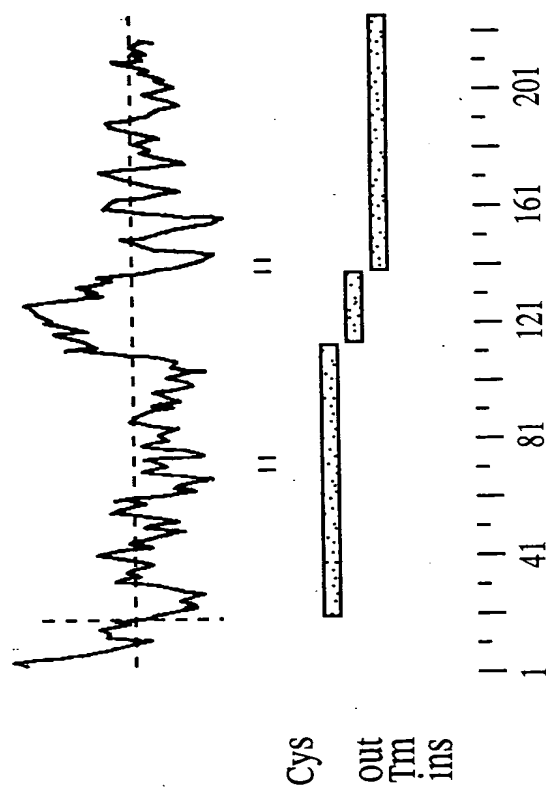


FIG. 22M



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| T   | Y   | G   | P   | D   | C   | L   | A   | C   | Q   | G   | G   | S   | Q   | R   | P   | C   | S   | G   | N   | 151 |
| ACC | TAC | GGT | CCC | GAC | TGT | CTC | GCA | TGC | CAG | GGC | GGA | TCC | CAG | AGG | CCC | TGC | AGC | GGG | AAT | 566 |
| G   | H   | C   | S   | G   | D   | G   | S   | R   | Q   | G   | D   | G   | S   | C   | R   | C   | H   | M   | G   | 171 |
| GGC | CAC | TGC | AGC | GGA | GAT | GGG | AGC | AGA | CAG | GGC | GAC | GGG | TCC | TGC | CGG | TGC | CAC | ATG | GGG | 626 |
| Y   | Q   | G   | P   | L   | C   | T   | D   | C   | M   | D   | G   | Y   | F   | S   | S   | L   | R   | N   | E   | 191 |
| TAC | CAG | GGC | CCG | CTG | TGC | ACT | GAC | TGC | ATG | GAC | GGC | TAC | TTC | AGC | TCG | CTC | CGG | AAC | GAG | 686 |
| T   | H   | S   | I   | C   | T   | A   | C   | D   | E   | S   | C   | K   | T   | C   | S   | G   | L   | T   | N   | 211 |
| ACC | CAC | AGC | ATC | TGC | ACA | GCC | TGT | GAC | GAG | TCC | TGC | AAG | ACG | TGC | TCG | GGC | CTG | ACC | AAC | 746 |
| R   | D   | C   | G   | E   | C   | E   | V   | G   | W   | V   | L   | D   | E   | G   | A   | C   | V   | D   | V   | 231 |
| AGA | GAC | TGC | GGC | GAG | TGT | GAA | GTG | GGC | TGG | GTG | CTG | GAC | GAG | GGC | GCC | TGT | GTG | GAT | GTG | 806 |
| D   | E   | C   | A   | A   | E   | P   | P   | P   | C   | S   | A   | A   | Q   | F   | C   | K   | N   | A   | N   | 251 |
| GAC | GAG | TGT | GCG | GCC | GAG | CCG | CCT | CCC | TGC | AGC | GCT | GCG | CAG | TTC | TGT | AAG | AAC | GCC | AAC | 866 |
| G   | S   | Y   | T   | C   | E   | E   | C   | D   | S   | S   | C   | V   | G   | C   | T   | G   | E   | G   | P   | 271 |
| GGC | TCC | TAC | ACG | TGC | GAA | GAG | TGT | GAC | TCC | AGC | TGT | GTG | GGC | TGC | ACA | GGG | GAA | GGC | CCA | 926 |
| G   | N   | C   | K   | E   | C   | I   | S   | G   | Y   | A   | R   | E   | H   | G   | Q   | C   | A   | D   | V   | 291 |
| GGA | AAC | TGT | AAA | GAG | TGT | ATC | TCT | GGC | TAC | GCG | AGG | GAG | CAC | GGA | CAG | TGT | GCA | GAT | GTG | 986 |

Fig. 23B

|      |      |       |      |      |      |      |      |      |       |      |       |      |      |      |       |        |       |        |       |      |
|------|------|-------|------|------|------|------|------|------|-------|------|-------|------|------|------|-------|--------|-------|--------|-------|------|
| D    | E    | C     | S    | L    | A    | E    | K    | T    | C     | V    | R     | K    | N    | E    | N     | C      | Y     | N      | T     | 311  |
| GAC  | GAG  | TGC   | TCA  | CTA  | GCA  | GAA  | AAA  | ACC  | TGT   | GTG  | AGG   | AAA  | AAC  | GAA  | AAC   | TGC    | TAC   | AAT    | ACT   | 1046 |
| P    | G    | S     | Y    | V    | C    | V    | C    | P    | D     | G    | F     | E    | E    | T    | E     | D      | A     | C      | V     | 331  |
| CCA  | GGG  | AGC   | TAC  | GTC  | TGT  | GTG  | TGT  | CCT  | GAC   | GGC  | TTC   | GAA  | GAA  | ACG  | GAA   | GAT    | GCC   | TGT    | GTG   | 1106 |
| P    | P    | A     | E    | A    | E    | A    | T    | E    | G     | E    | S     | P    | T    | Q    | L     | P      | S     | R      | E     | 351  |
| CCG  | CCG  | GCA   | GAG  | GCT  | GAA  | GCC  | ACA  | GAA  | GGA   | GAA  | AGC   | CCG  | ACA  | CAG  | CTG   | CCC    | TCC   | CGC    | GAA   | 1166 |
| D    | L    | *     |      |      |      |      |      |      |       |      |       |      |      |      |       |        |       |        |       | 354  |
| GAC  | CTG  | TAA   |      |      |      |      |      |      |       |      |       |      |      |      |       |        |       |        |       | 1175 |
| TGT  | GCC  | GACTT | ACCC | TTT  | AAAT | TAT  | TCA  | GAA  | GATG  | TCCC | GTGG  | AAAT | GTGG | CCCT | GAG   | GATG   | CCGT  | CTCCT  | GCAGT | 1254 |
| GGAC | AGCG | GGG   | GAG  | AGG  | CTGC | CTCT | CTA  | ACGG | TGATT | CTCT | CATT  | TGT  | CCCT | TAA  | ACAG  | CTGC   | ATTCT | TGGTTG |       | 1333 |
| TTCT | TAA  | ACAG  | ACTT | GTAT | ATTT | TGAT | ACAG | TTCT | TTGT  | ATAA | AAATT | GAC  | CATT | GTAG | GTAAT | CAAAAA | AAAA  | AAAA   | AAAA  | 1412 |
| AAAA | AGG  | CGG   | CGC  | GCT  | AGAC |      |      |      |       |      |       |      |      |      |       |        |       |        |       | 1432 |

Fig. 23C

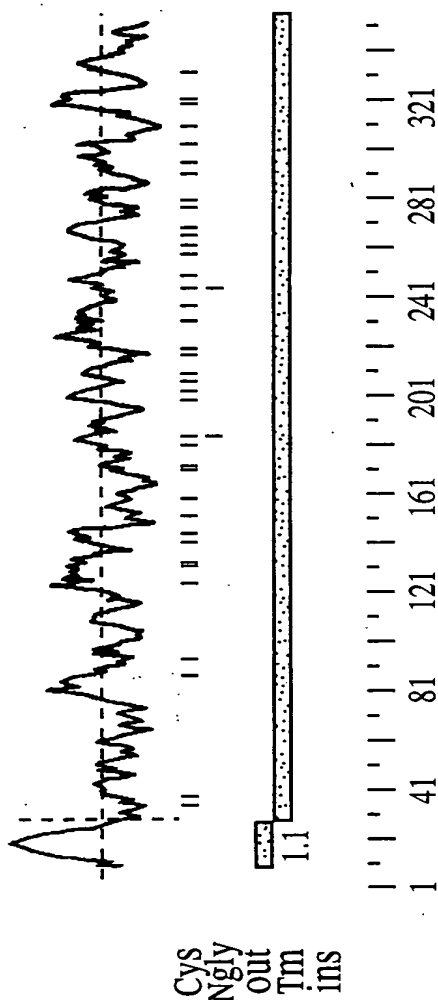


FIG. 23D



TABLE 10 "DETERMINED"

|  |     |     |     |     |     |
|--|-----|-----|-----|-----|-----|
| 10   | 20  | 30  | 40  | 50  | 60  |
| C MHLPPAAVGLL-LLLLPPARVASRKPTMCQRCRALVDKFNQGMANTARKNFGGNTAWEEKSLSKYE       |     |     |     |     |     |
| ...  | ... | ... | ... | ... | ... |
| H MRLPRRAALGLPLLLPPAPEAAKKPTPCHRCRGLVDKFNQGMVDTAKKNFGGNTAWEEKTLSKYES       |     |     |     |     |     |
| 10   | 20  | 30  | 40  | 50  | 60  |
| 70   | 80  | 90  | 100 | 110 | 120 |
| C SEIRLLEIMEGLCDNSDFECNQLLEQHEEQLEAWWQTLKKECPNLFWFVCVHTLKACCLPGTYGPDCEC    |     |     |     |     |     |
| ...  | ... | ... | ... | ... | ... |
| H SEIRLLEILEGLCESSDFECNQMLEAQEEHLEAWWLQKSEYPDLFEWFCVKTILKVCCSPGTYGPDCLAC   |     |     |     |     |     |
| 80   | 90  | 100 | 110 | 120 | 130 |
| 140  | 150 | 160 | 170 | 180 | 190 |
| C QGGSQRPCSGNGHCDGSGRQGDGSCQCHVGKGPLCIDCMDGYFSLLRNETHSFCTACDESKTCSGPT      |     |     |     |     |     |
| ...  | ... | ... | ... | ... | ... |
| H QGGSQRPCSGNGHCSGDGSRQGDGSCRCHMGYQGPLCTDCMDGYFSSLRNETHSICTACDESKTCSGLT    |     |     |     |     |     |
| 150  | 160 | 170 | 180 | 190 | 200 |
| 210  | 220 | 230 | 240 | 250 | 260 |
| C NKGCEVEGWTRVEDACVDVDECAAETPPCSNVQYCNVNGSYTCEECDSTCVGCTGKGPANCKECISG      |     |     |     |     |     |
| ...  | ... | ... | ... | ... | ... |
| H NRDCGECEVGWVLDEGACVDVDECAAEPSPCSAAQFCKNANGSYTCEECDSSCVGCTGEGPGNCKECISG   |     |     |     |     |     |
| 220  | 230 | 240 | 250 | 260 | 270 |
| 280  | 290 | 300 | 310 | 320 | 330 |
| C YSKQKGECADIDECSLKTKVCKKENENENCYNTPGSFVCVCPGEGFEE-DRRLC-LTDSRRRSRGRKSHATL |     |     |     |     |     |
| ...  | ... | ... | ... | ... | ... |
| H YAREHGQCADVDECSLAEKTCVRKNENENCYNTPGSYVCVCPDGFEETEDACVPPAAEAATEGESPTQLPSR |     |     |     |     |     |
| 290  | 300 | 310 | 320 | 330 | 340 |
| C P--  |     |     |     |     |     |
| H EDL  |     |     |     |     |     |

Fig. 23E

**Fig. 23F**

260 270 280 290 300 310 320  
C GGCAACACGGCGTGGGAGGAGAAAGAGTCTGTCCAAGTACGAATTCAGTGAGATTCGGCTCCTGGAGATTA  
:: :::::::::: :::::::::: :::::::::: :::::::::: :::::::::: :::::::::: ::::::::::  
H GGGAAACACGGCTTGGGAGGAAAGACGCTGTCCAAGTACGAGTCCAGCGAGATTCGCCCTGCTGGAGATCC  
280 290 300 310 320 330 340  
330 340 350 360 370 380 390  
C TGGAGGGCCTGTGTGACAGCAACGACTTTGAATGCAACCAACT-CTTGGAACAGCATGAGGAGCAGCTAG  
:: :::::::::: :::::::::: :::::::::: :::::::::: :::::::::: :::::::::: ::::::::::  
H TGGAGGGGCTGTGCGAGAGCAGCGACTTCGAATGCAATCAGATGCTAGAGGC-GCAGGAGGAGCACCTGG  
350 360 370 380 390 400 410  
400 410 420 430 440 450 460  
C AGGCCTGGTGGCAGACACTGAAGAAGGAGTGCCCTAACCTATTTGAGTGGTCTGTGTACACACACTGAA  
:: :::::::::: :::::::::: :::::::::: :::::::::: :::::::::: :::::::::: ::::::::::  
H AGGCCTGGTGGCTGCAGCTGAAGAGCGAATATCCTGACTTATTCGAGTGGTTTGTGTGAAGACACTGAA  
420 430 440 450 460 470 480  
470 480 490 500 510 520 530  
C AGCATGCTGTCTTCCAGGCACCTATGGGCCAGACTGTTCAGGAATGCCAGGGTGGGTCTCAGAGGCCCTTGT  
:: :::::::::: :::::::::: :::::::::: :::::::::: :::::::::: :::::::::: ::::::::::  
H AGTGTGCTGTCTCCAGGAACCTACGGTCCCGACTGTCTCGCATGCCAGGGCGGATCCCAGAGGCCCTGC  
490 500 510 520 530 540 550

**Fig. 23G**

```

540      550      560      570      580      590      600
C AGCGGGAATGCCCACTGCGACGGAGATGGCAGCAGACAGGGCGACGGTCTCTGCCAGTGTCAAGTAGGAT
  ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
H AGCGGGAATGCCCACTGCGACGGAGATGGGAGCAGACAGGGCGACGGTCTCTGCCAGTGTCCACATGGGGT
560      570      580      590      600      610      620

610      620      630      640      650      660      670
C ACAAGGGCGCGTGTGTATCGACTGCATGGATGGCTACTTCAGCTTGTGAGGAACGAGACCCACAGCTT
  ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
H ACCAGGGCGCGTGTGCACTGACTGCATGGACGGCTACTTCAGCTCGCTCCGGAACGAGACCCACAGCAT
630      640      650      660      670      680      690

680      690      700      710      720      730      740
C CTGCACAGCCTGTGATGAGTCCCTGCAAGACATGCTCAGGTCCAACCAAAAGGCTGTGTGGAGTGCGAA
  ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
H CTGCACAGCCTGTGACGAGTCCCTGCAAGACGCTGCTCGGGCCTGACCAACACAGAGACTGCGGGCGAGTGTGAA
700      710      720      730      740      750      760

750      760      770      780      790      800      810
C GTGGGCTGGACACAGTGTGGAGGATGCCCTGTGTGGATGTTGACGAGTGTGCAGCAGAGACCCACCCCTGCA
  ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
H GTGGGCTGGTGTGGACGAGGGCGCCTGTGTGGATGTGGACGAGTGTGCGGCCGAGCGCCCTCCCTGCA
770      780      790      800      810      820      830

```

Fig. 23H

|   |  |      |      |      |      |      |      |      |
|---|--|------|------|------|------|------|------|------|
| C | GCAATGTACAGTACTGTGAAAAATGTCAACGGCTCCTACACATGTGAAGAGTGTGATTCTACCTGTGTGGG  | 820  | 830  | 840  | 850  | 860  | 870  | 880  |
| H | CGCTGCGCAGTTCTGTAAGAACGCCAACGGCTCCTACACGTGCGAAGAGTGTGACTCCAGCTGTGTGGG    | 840  | 850  | 860  | 870  | 880  | 890  | 900  |
| C | CTGCACAGGAAAAGGCCCCAGCCCAATTGTAAAGAGTGTATCTCTGGCTACAGCAAGCAGAAAGGAGAGTGT | 890  | 900  | 910  | 920  | 930  | 940  | 950  |
| H | CTGCACAGGGGAAGGCCCCAGGAAACTGTAAAGAGTGTATCTCTGGCTACGCGAGGGAGCACGGACAGTGT  | 910  | 920  | 930  | 940  | 950  | 960  | 970  |
| C | GCAGATATAGATGAATGCTCATTAGAAACAAAGGTGTGTAAAGGAAATGAGAACTGCTACAATACTC      | 960  | 970  | 980  | 990  | 1000 | 1010 | 1020 |
| H | GCAGATGTGGACGAGTGCTCACTAGCAGAAAAAACCTGTGTGAGGAAAAACGAAAACTGCTACAATACTC   | 980  | 990  | 1000 | 1010 | 1020 | 1030 | 1040 |
| C | CAGGGAGCTTTGTCTGCGTGTGTCCGGAAGTTTCGAGGAAGACAGAAAGATGCTTGTGTACAGACAGCAG   | 1030 | 1040 | 1050 | 1060 | 1070 | 1080 | 1090 |
| H | CAGGGAGCTACGTCTGTGTGTCTGACGGCTTCGAAGAA-ACGGAAGATGCCTGTGTGCCCGCCGCGCAG    | 1050 | 1060 | 1070 | 1080 | 1090 | 1100 | 1110 |

**Fig. 23I**

```

1100      1110      1120      1130      1140      1150
C AAGCGAAGTGGCAGAGGAAAGT--CCC-ACACAGCCACCTCCCATGAGGATTGTGACGGCATCCAG
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H AGGCTGAAGCCACAGAGGAGAAAGCCCGACACAGCTGCCCTCCCGGAAGA-----CCTG
1120      1130      1140      1150      1160      1170
1160      1170      1180      1190      1200      1210      1220
C GTTCAGAAGCTGGACTCTCACCCCTTTTAAAGTTATTGAGAGGACATCCTATAGAAAAATGTGGCCCATGGAC
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H --TAATGTGCCGGAAGCTT--ACCCCTTTAAATTATTTCAGAAGGATGTCCCCTGGGAAAAATGTGGCCCTGAGGA
1180      1190      1200      1210      1220      1230

1230      1240      1250      1260      1270      1280      1290
C ATCAACCCCAATTTCTCCAGGAAGTTTGG-AGGAAGAAGCTGCCCTGCTTTGAAACAGTAGATACTCACTT
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H TGCCGTCTC-----CTGCAGTGGACAGCGCGGGGAGAGGCTGCCCTGCTCTCTAACGGTTGATTCTCATTT
1240      1250      1260      1270      1280      1290      1300
1300      1310      1320      1330      1340      1350      1360
C GGCCCTTTAAACGCTGCATTTCTTGGTGGTTCCTTAAACAGATTCTGTATATTTTGATACTGTTCTTTATA
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H GTCCCTTAAACA-GCTGCATTTCTTGGTGTCTTAAACAGACTTGTATATTTTGATACAGTTCTTTTGTGTA
1310      1320      1330      1340      1350      1360      1370

1370      1380      1390
C ATAAAAATTGATCATTTGAAGGTCACCCAGGA-----CA-----
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
H ATAAAAATTGACCAATTGTAGGTAATCAAAAAAATAAAAAAAGGCGCGCGCTAGAC
1380      1390      1400      1410      1420      1430

```

Fig. 23J

# GenBank

|   |            |
|---|------------|
| GTCGACCCACGCGTCCGTCTGCGGCCCCAGCCCTCTCCTCAGCTCGCGCAGTCTCCGCCCGCAGTCTCAGCTGCAGCTG | 79         |
| CAGGACTGAGCCGTGCACCCGGAGAGACCCCGGAGGAGCGACAACTTCGCAGTGCCCGGACCCCAACCCAGCCCT     | 158        |
| GGGTAGCCTGCAGC ATG GCC CAG CTG TTC CTG CCC CTG CTG GCA GCC CTG GTC CTG GCC CAG  | 16<br>220  |
| A P A A L A D V L E G D S S E D R A F R   | 36<br>280  |
| GCT CCT GCA GCT TTA GCA GAT GTT CTG GAA GGA GAC AGC TCA GAG GAC CGC GCT TTT CGC |            |
| V R I A G D A P L Q G V L G G A L T I P   | 56<br>340  |
| GTG CGC ATC GCG GGC GAC GCG CCA CTG CAG GGC GTG CTC GGC GGC CTC ACC ATC CCT     |            |
| C H V H Y L R P P S R R A V L G S P R   | 76<br>400  |
| TGC CAC GTC CAC TAC CTG CGG CCA CCG CCG AGC CGC CGG GCT GTG CTG GGC TCT CCG CGG | 251/361    |
| V K W T F L S R G R E A E V L V A R G V   | 96<br>460  |
| GTC AAG TGG ACT TTC CTG TCC CGG GGC CGG GAG GCA GAG GTG CTG GTG GCG CGG GGA GTG |            |
| R V K V N E A A Y R F R V A L P A Y P A S                                       | 116<br>520 |
| CGC GTC AAG GTG AAC GAG GCC TAC CGG TTC CGC GTG GCA CTG CCT CCG TAC CCA GCG TCG |            |
| L T D V S L A L S E L R P N D S G I Y R   | 136<br>580 |
| CTC ACC GAC GTC TCC CTG GCG CTG AGC GAG CTG CGC CCC AAC GAC TCA GGT ATC TAT CGC |            |

Fig. 24A

# GenBank

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| C   | E   | V   | Q   | H   | G   | I   | D   | D   | S   | S   | D   | A   | V   | E   | V   | K   | V   | K   | G   | 156  |
| TGT | GAG | GTC | CAG | CAC | CAC | ATC | GAT | GAC | AGC | AGC | GAC | GCT | GTG | GAG | GTC | AAG | GTC | AAA | GGG | 640  |
| V   | V   | F   | L   | Y   | R   | E   | G   | S   | A   | R   | Y   | A   | F   | S   | F   | S   | G   | A   | Q   | 176  |
| GTC | GTC | TTT | CTC | TAC | TAC | GAG | GGC | TCT | GCC | CGC | TAT | GCT | TTC | TCC | TTT | TCT | GGG | GCC | CAG | 700  |
| E   | A   | C   | A   | R   | I   | G   | A   | H   | I   | A   | T   | P   | E   | Q   | L   | Y   | A   | A   | Y   | 196  |
| GAG | GCC | TGT | GCC | CGC | ATT | GGA | GCC | CAC | ATC | GCC | ACC | CCG | GAG | CAG | CTC | TAT | GCC | GCC | TAC | 760  |
| L   | G   | G   | Y   | E   | Q   | C   | D   | A   | G   | W   | L   | S   | D   | Q   | T   | V   | R   | Y   | P   | 216  |
| CTT | GGG | GGC | TAT | GAG | CAA | TGT | GAT | GCT | GGC | TGG | CTG | TCG | GAT | CAG | ACC | GTG | AGG | TAT | CCC | 820  |
| I   | Q   | T   | P   | R   | E   | A   | C   | Y   | G   | D   | M   | D   | G   | F   | P   | G   | V   | R   | N   | 236  |
| ATC | CAG | ACC | CCA | CGA | CAG | GCC | TGT | TAC | GGA | GAC | ATG | GAT | GGC | TTC | CCC | GGG | GTC | CGG | AAC | 880  |
| Y   | G   | V   | V   | D   | P   | D   | D   | L   | Y   | D   | V   | Y   | C   | Y   | A   | E   | D   | L   | N   | 256  |
| TAT | GGT | GTG | GTG | GAC | CCG | GAT | GAC | CTC | TAT | GAT | GTG | TAC | TGT | TAT | GCT | GAA | GAC | CTA | AAT | 940  |
| G   | E   | L   | F   | L   | G   | D   | P   | P   | E   | K   | L   | T   | L   | E   | E   | A   | R   | A   | Y   | 276  |
| GGA | GAA | CTG | TTC | CTG | GGT | GAC | CCT | CCA | GAG | AAG | CTG | ACA | TTG | GAG | GAA | GCA | CGG | GCG | TAC | 1000 |
| C   | Q   | E   | R   | G   | A   | E   | I   | A   | T   | T   | G   | Q   | L   | Y   | A   | A   | W   | D   | G   | 296  |
| TGC | CAG | GAG | CGG | GGT | GCA | GAG | ATT | GCC | ACC | ACG | GGC | CAA | CTG | TAT | GCA | GCC | TGG | GAT | GGT | 1060 |

Fig. 24B



# GENE "GTF2B"

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |      |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|------|-----|
| G   | L   | D   | H   | C   | S   | P   | G   | G   | W   | L   | A   | D   | G   | S   | V   | R   | Y   | P   | I   | V |      | 316 |
| GGC | CTG | GAC | CAC | TGC | AGC | CCA | GGG | TGG | CTA | GCT | GAT | GGC | AGT | GTG | CGC | TAC | CCC | ATC | GTC |   | 1120 |     |
| T   | P   | S   | Q   | R   | C   | G   | G   | G   | L   | P   | G   | V   | K   | T   | L   | F   | L   | F   | P   |   | 336  |     |
| ACA | CCC | AGC | CAG | CGC | TGT | GGT | GGG | GGC | TTG | CCT | GGT | GTC | AAG | ACT | CTC | TTC | CTC | TTC | CCC |   | 1180 |     |
| N   | Q   | T   | G   | F   | P   | N   | K   | H   | S   | R   | F   | N   | V   | Y   | C   | F   | R   | D   | S   |   | 356  |     |
| AAC | CAG | ACT | GGC | TTC | CCC | AAT | AAG | CAC | AGC | CGC | TTC | AAC | GTC | TAC | TGC | TTC | CGA | GAC | TCG |   | 1240 |     |
| A   | Q   | P   | S   | A   | I   | P   | E   | A   | S   | N   | P   | A   | S   | N   | P   | A   | S   | D   | G   |   | 376  |     |
| GCC | CAG | CCT | TCT | GCC | ATC | CCT | GAG | GCC | TCC | AAC | CCA | GCC | TCC | AAC | CCA | GCC | TCT | GAT | GGA |   | 1300 |     |
| L   | E   | A   | I   | V   | T   | V   | T   | E   | T   | L   | E   | E   | L   | Q   | L   | P   | Q   | E   | A   |   | 396  |     |
| CTA | GAG | GCT | ATC | GTC | ACA | GTG | ACA | GAG | ACC | CTG | GAG | GAA | CTG | CAG | CTG | CCT | CAG | GAA | GCC |   | 1360 |     |
| T   | E   | S   | E   | S   | R   | G   | A   | I   | Y   | S   | I   | P   | I   | M   | E   | D   | G   | G   | G   |   | 416  |     |
| ACA | GAG | AGT | GAA | TCC | CGT | GGG | GCC | ATC | TAC | TCC | ATC | CCC | ATC | ATG | GAG | GAC | GGA | GGA | GGT |   | 1420 |     |
| G   | S   | S   | T   | P   | E   | D   | P   | A   | E   | A   | P   | R   | T   | L   | L   | E   | F   | E   | T   |   | 436  |     |
| GGA | AGC | TCC | ACT | CCA | GAA | GAC | CCA | GCA | GAG | GCC | CCT | AGG | ACG | CTC | CTA | GAA | TTT | GAA | ACA |   | 1480 |     |
| Q   | S   | M   | V   | P   | P   | T   | G   | F   | S   | E   | E   | E   | G   | K   | A   | L   | E   | E   | E   |   | 456  |     |
| CAA | TCC | ATG | GTA | CCG | CCC | ACG | GGG | TTC | TCA | GAA | GAG | GAA | GGT | AAG | GCA | TTG | GAG | GAA | GAA |   | 1540 |     |

Fig. 24C

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| E   | K   | Y   | E   | D   | E   | E   | E   | K   | E   | E   | E   | E   | E   | E   | E   | E   | E   | V   | D   | 476  |      |
| GAG | AAA | TAT | GAA | GAT | GAA | GAG | GAA | GAG | AAA | GAG | GAG | GAG | GAA | GAA | GAG | GAG | GAG | GTG | GAG | GAT  | 1600 |
| E   | A   | L   | W   | A   | W   | P   | S   | E   | L   | S   | S   | P   | G   | P   | E   | A   | S   | L   | P   | 496  |      |
| GAG | GCT | CTG | TGG | GCA | TGG | CCC | AGC | GAG | CTC | AGC | AGC | CCG | GGC | CCT | GAG | GCC | TCT | CTC | CCC | 1660 |      |
| T   | E   | P   | A   | A   | Q   | E   | K   | S   | L   | S   | Q   | A   | P   | A   | R   | A   | V   | L   | Q   | 516  |      |
| ACT | GAG | CCA | GCA | GCC | CAG | GAG | AAG | TCA | CTC | TCC | CAG | GCG | CCA | GCA | AGG | GCA | GTC | CTG | CAG | 1720 |      |
| P   | G   | A   | S   | P   | L   | P   | D   | G   | E   | S   | E   | A   | S   | R   | P   | P   | R   | V   | H   | 536  |      |
| CCT | GGT | GCA | TCA | CCA | CTT | CCT | GAT | GGA | GAG | TCA | GAA | GCT | TCC | AGG | CCT | CCA | AGG | GTC | CAT | 1780 |      |
| G   | P   | P   | T   | E   | T   | L   | P   | T   | P   | R   | E   | R   | N   | L   | A   | S   | P   | S   | P   | 556  |      |
| GGA | CCA | CCT | ACT | GAG | ACT | CTG | CCC | ACT | CCC | AGG | GAG | AGG | AAC | CTA | GCA | TCC | CCA | TCA | CCT | 1840 |      |
| S   | T   | L   | V   | E   | A   | R   | E   | V   | G   | E   | A   | T   | G   | G   | P   | E   | L   | S   | G   | 576  |      |
| TCC | ACT | CTG | GTT | GAG | GCA | AGA | GAG | GTG | GGG | GAG | GCA | ACT | GGT | GGT | CCT | GAG | CTA | TCT | GGG | 1900 |      |
| V   | P   | R   | G   | E   | S   | E   | E   | T   | G   | S   | S   | E   | G   | A   | P   | S   | L   | L   | P   | 596  |      |
| GTC | CCT | CGA | GGA | GAG | AGC | GAG | GAG | ACA | GGA | AGC | TCC | GAG | GGT | GCC | CCT | TCC | CTG | CTT | CCA | 1960 |      |
| A   | T   | R   | A   | P   | E   | G   | T   | R   | E   | L   | E   | A   | P   | S   | E   | D   | N   | S   | G   | 616  |      |
| GCC | ACA | CGG | GCC | CCT | GAG | GGT | ACC | AGG | GAG | CTG | GAG | GCC | CCC | TCT | GAA | GAT | AAT | TCT | GGA | 2020 |      |

**Fig. 24D**

# REFSEQ

|     |       |       |        |         |        |        |         |       |          |         |          |        |        |         |        |      |      |      |      |      |
|-----|-------|-------|--------|---------|--------|--------|---------|-------|----------|---------|----------|--------|--------|---------|--------|------|------|------|------|------|
| R   | T     | A     | P      | A       | G      | T      | S       | V     | Q        | A       | Q        | P      | V      | L       | P      | T    | D    | S    | A    | 636  |
| AGA | ACT   | GCC   | CCA    | GCA     | GGG    | ACC    | TCA     | GTG   | CAG      | GCC     | CAG      | CCA    | GTG    | CTG     | CCC    | ACT  | GAC  | AGC  | GCC  | 2080 |
| S   | R     | G     | G      | V       | A      | V      | V       | P     | A        | S       | G        | N      | S      | A       | Q      | G    | S    | T    | A    | 656  |
| AGC | CGA   | GGT   | GGA    | GTG     | GCC    | GTG    | GTC     | CCC   | GCA      | TCA     | GGT      | AAT    | TCT    | GCC     | CAA    | GGC  | TCA  | ACT  | GCC  | 2140 |
| L   | S     | I     | L      | L       | L      | F      | F       | P     | L        | Q       | L        | W      | V      | T       | *      |      |      |      |      | 672  |
| CTC | TCT   | ATC   | CTA    | CTC     | CTT    | TTC    | TTC     | CCC   | CTG      | CAG     | CTC      | TGG    | GTC    | ACC     | TGA    |      |      |      |      | 2188 |
| CCT | GTA   | GCCTT | TAACCC | ACCAT   | CATCC  | CAACT  | CTCCT   | GTCTT | GCCTT    | CATTCT  | CTTACCC  | ACCTCT | ACCTAT | GCG     |        |      |      |      |      | 2267 |
| TCT | CCAAT | CTCGG | ATATCC | ACCTT   | GTGGG  | TATCT  | CAGCT   | CTCCG | CGTCTTT  | ACCC    | GTGAT    | CCCC   | AGCCCC | CGCC    | ACTGAC |      |      |      |      | 2346 |
| CAT | CTGT  | GACCC | TTCCC  | CTGCC   | ATTGGG | CCCTCC | ACCTGT  | GGCTC | ACATCT   | CGCC    | AGCCCC   | ACAGAG | CATCCT | CAGGCCT |        |      |      |      |      | 2425 |
| CTC | CAAGG | GTCC  | CTCAT  | CACCT   | ATTGC  | AGCCTT | CAGGG   | CTCGG | CCATATTT | TCCACT  | ACTCCCTT | CATCCG | CCGTGT | GTGCC   |        |      |      |      |      | 2504 |
| GT  | CCCC  | TTTAG | CTGCC  | TCCTATT | GATCT  | CAGGA  | AGCCTGG | GAGT  | CCCTTCT  | CACCCCT | CAACCT   | CCGG   | AGTCC  | AGGAG   |        |      |      |      |      | 2583 |
| A   | ACCCG | TACCC | CCAC   | AGCCCTT | AAGCA  | ACTACT | TCTGT   | GAA   | GATATTTT | TGACT   | GTTT     | CATG   | GAAA   | CAAGCC  | TTGGA  |      |      |      |      | 2662 |
| A   | ATAA  | TCTCT | ATTAA  | ACCGCTT | TGTA   | ACC    | AAAA    | AAAA  | AAAA     | AAAA    | AAAA     | AAAA   | AAAA   | AAAA    | AAAA   | AAAA | AAAA | AAAA | AAAA | 2730 |

Fig. 24E

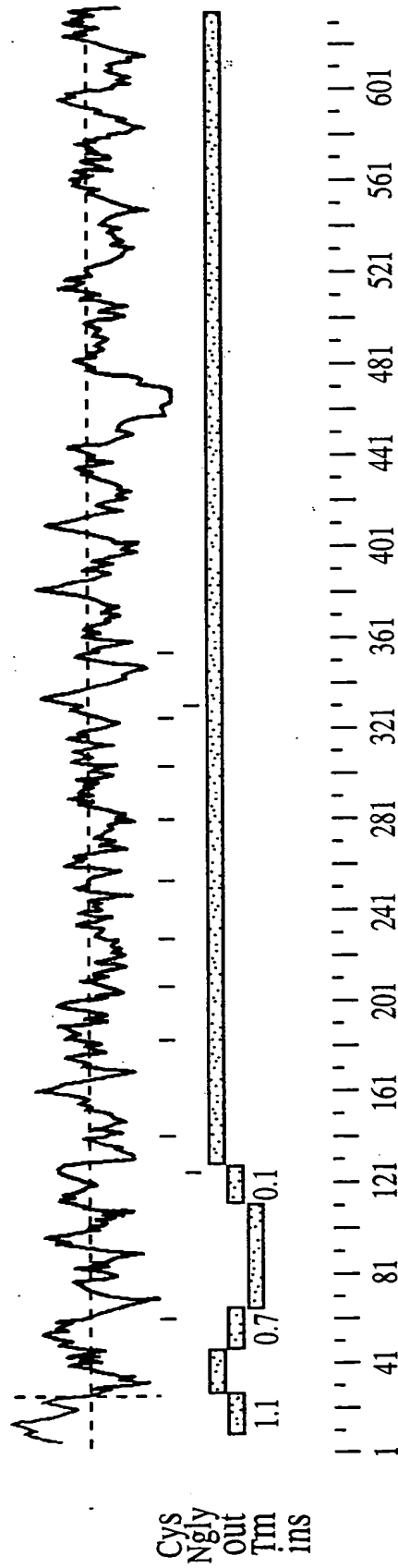


FIG. 24F

# LOCUS: 024560

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10      20      30      40      50      60      70
332 MAQLFLPLLAALVLAQAPAAALADVLEGDSSSEDRAFVRRIAGDAPLQGVLGALTIPCHVHYLRPPPSRRRA
      ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
BEF MAQLFLPLLAALVLAQAPAAALADVLEGDSSSEDRAFVRRIAGDAPLQGVLGALTIPCHVHYLRPPPSRRRA
10      20      30      40      50      60      70

80      90      100     110     120     130     140
332 VLGSPRVKWTFLSRGREAEVLVARGVRVKVNEAYRFRVALPAYPASITDVSLALSELRPNDSGIYRCEVQ
      ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
BEF VLGSPRVKWTFLSRGREAEVLVARGVRVKVNEAYRFRVALPAYPASITDVSLALSELRPNDSGIYRCEVQ
80      90      100     110     120     130     140

150     160     170     180     190     200     210
332 HGIDSSDAVEVKVGKGVVFLYREGSARYAFSFGAQACARIGAHIAATPEQLYAAYLGGYEQCDAGWLS
      ::::::::::::::
BEF HGIDSSDAVE-----SS
150

220     230     240     250     260     270     280
332 QTVRYPIQTPREACYGMDMGFPGVNRNYGVVDDPDDLVDVYCYAEDLNGELFLGDPPEKLTLEEARAYCQER
      : ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
BEF Q--RYPIQTPREACYGMDMGFPGVNRNYGVVDDPDDLVDVYCYAEDLNGELFLGDPPEKLTLEEARAYCQER
160     170     180     190     200     210     220

290     300     310     320     330     340     350
332 GAEIATTGQLYAAWDGGLDHCSPGWLADGSVRYPIVTPSQRCGGGLPGVKTLFLFPNQTFGNPKHSRNFV
      ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
BEF GAEIATTGQLYAAWDGGLDHCSPGWLADGSVRYPIVTPSQRCGGGLPGVKTLFLFPNQTFGNPKHSRNFV
230     240     250     260     270     280     290

```

**Fig. 24G**

# 332 YCFRDSAQP-SAIPEASNPNASDGLAIVTVTETLEELQLPQEATESESRGAIYSIPIMEDGGGGSS

332 YCFRDSAQP-SAIPEASNPNASDGLAIVTVTETLEELQLPQEATESESRGAIYSIPIMEDGGGGSS  
 BEF YCFRDSAQLLPSLRPPTQPPTQL--DGLEAIVTVTETLEELQLPQEATESESRGAIYSIPIMEDGGGGSS  
 300 310 320 330 340 350

420 430 440 450 460 470 480  
 332 TPEDPAEAPRTLLEFETQSMVPPPTGFSEEEGKALEEEKYEDEEEKEEEEEVEDEALWAMPSELSSP  
 BEF TPEDPAEAPRTLLEFETQSMVPPPTGFSEEEGKALEEEKYEDEEEKEEEEEVEDEALWAMPSELSSP  
 360 370 380 390 400 410 420

490 500 510 520 530 540 550  
 332 GPEASLPTEPAAQKSLSQAPARAVLQPGASPLPDGESEASRPPRVHGPPTETLPTPRERNLASPSPSTL  
 BEF GPEASLPTEPAAQEEESLSQAPARAVLQPGASPLPDGESEASRPPRVHGPPTETLPTPRERNLASPSPSTL  
 430 440 450 460 470 480 490

560 570 580 590 600 610 620  
 332 VEAREVGEATGGPELSGVPRGESEETGSSEGAPSLLPATRAPEGTRELEAPSEDNSGRTAPAGTSVQAQP  
 BEF VEAREVGEATGGPELSGVPRG-----GAR-----TQ-  
 500 510 520

630 640 650 660 670  
 332 VLPTDSASRGGVAVVPASGNSAQGSTALSILLFFPLQLWVT  
 BEF -----FAL-----

Fig. 24H

[illegible]

|   |      |    |    |     |     |     |     |  |
|---|------|----|----|-----|-----|-----|-----|--|
| M | MIP  | 10 | 20 | 30  | 40  | 50  | 60  |  |
|   | LLS  |    |    |     |     |     |     |  |
|   | LAAL |    |    |     |     |     |     |  |
|   | VTQ  |    |    |     |     |     |     |  |
|   | APAA |    |    |     |     |     |     |  |
|   | ADDL |    |    |     |     |     |     |  |
|   | KED  |    |    |     |     |     |     |  |
|   | SSED |    |    |     |     |     |     |  |
|   | RAFR |    |    |     |     |     |     |  |
|   | VRI- |    |    |     |     |     |     |  |
|   | GAA  |    |    |     |     |     |     |  |
|   | QLRG |    |    |     |     |     |     |  |
|   | VLGG |    |    |     |     |     |     |  |
|   | ALAI |    |    |     |     |     |     |  |
|   | PC   |    |    |     |     |     |     |  |
|   | HV   |    |    |     |     |     |     |  |
|   | HL   |    |    |     |     |     |     |  |
|   | RP   |    |    |     |     |     |     |  |
|   | PP   |    |    |     |     |     |     |  |
|   | RR   |    |    |     |     |     |     |  |
|   | RA   |    |    |     |     |     |     |  |
| H | MAQ  |    |    |     |     |     |     |  |
|   | FLP  |    |    |     |     |     |     |  |
|   | LLA  |    |    |     |     |     |     |  |
|   | ALV  |    |    |     |     |     |     |  |
|   | LAQ  |    |    |     |     |     |     |  |
|   | APAA |    |    |     |     |     |     |  |
|   | ADV  |    |    |     |     |     |     |  |
|   | LEGD |    |    |     |     |     |     |  |
|   | SSED |    |    |     |     |     |     |  |
|   | RAFR |    |    |     |     |     |     |  |
|   | VRI  |    |    |     |     |     |     |  |
|   | AGD  |    |    |     |     |     |     |  |
|   | APLQ |    |    |     |     |     |     |  |
|   | GVLG |    |    |     |     |     |     |  |
|   | ALTI |    |    |     |     |     |     |  |
|   | PC   |    |    |     |     |     |     |  |
|   | HV   |    |    |     |     |     |     |  |
|   | HL   |    |    |     |     |     |     |  |
|   | RP   |    |    |     |     |     |     |  |
|   | PP   |    |    |     |     |     |     |  |
|   | PS   |    |    |     |     |     |     |  |
|   | RR   |    |    |     |     |     |     |  |
|   | RA   |    |    |     |     |     |     |  |
|   | 70   | 80 | 90 | 100 | 110 | 120 | 130 |  |
| M | APG  |    |    |     |     |     |     |  |
|   | FPR  |    |    |     |     |     |     |  |
|   | VK   |    |    |     |     |     |     |  |
|   | WT   |    |    |     |     |     |     |  |
|   | FL   |    |    |     |     |     |     |  |
|   | SGD  |    |    |     |     |     |     |  |
|   | REVE |    |    |     |     |     |     |  |
|   | LV   |    |    |     |     |     |     |  |
|   | ARG  |    |    |     |     |     |     |  |
|   | LR   |    |    |     |     |     |     |  |
|   | VK   |    |    |     |     |     |     |  |
|   | VEA  |    |    |     |     |     |     |  |
|   | YR   |    |    |     |     |     |     |  |
|   | FR   |    |    |     |     |     |     |  |
|   | VA   |    |    |     |     |     |     |  |
|   | LP   |    |    |     |     |     |     |  |
|   | AS   |    |    |     |     |     |     |  |
|   | LT   |    |    |     |     |     |     |  |
|   | DV   |    |    |     |     |     |     |  |
|   | SL   |    |    |     |     |     |     |  |
|   | SEL  |    |    |     |     |     |     |  |
|   | RP   |    |    |     |     |     |     |  |
|   | ND   |    |    |     |     |     |     |  |
|   | SG   |    |    |     |     |     |     |  |
|   | VY   |    |    |     |     |     |     |  |
|   | R    |    |    |     |     |     |     |  |
|   | CE   |    |    |     |     |     |     |  |
|   | VE   |    |    |     |     |     |     |  |
|   | Q    |    |    |     |     |     |     |  |
| H | VLG  |    |    |     |     |     |     |  |
|   | SPR  |    |    |     |     |     |     |  |
|   | VK   |    |    |     |     |     |     |  |
|   | WT   |    |    |     |     |     |     |  |
|   | FL   |    |    |     |     |     |     |  |
|   | SR   |    |    |     |     |     |     |  |
|   | GRE  |    |    |     |     |     |     |  |
|   | AE   |    |    |     |     |     |     |  |
|   | LV   |    |    |     |     |     |     |  |
|   | ARG  |    |    |     |     |     |     |  |
|   | VR   |    |    |     |     |     |     |  |
|   | VK   |    |    |     |     |     |     |  |
|   | VEA  |    |    |     |     |     |     |  |
|   | YR   |    |    |     |     |     |     |  |
|   | FR   |    |    |     |     |     |     |  |
|   | VA   |    |    |     |     |     |     |  |
|   | LP   |    |    |     |     |     |     |  |
|   | AS   |    |    |     |     |     |     |  |
|   | LT   |    |    |     |     |     |     |  |
|   | DV   |    |    |     |     |     |     |  |
|   | SL   |    |    |     |     |     |     |  |
|   | SEL  |    |    |     | </  |     |     |  |

**Fig. 24I**





# Figure 24K

```

680      690      700      710      720      730      740
M GACYKHFSRRSWEEAESQCRAALGAHLTSICTPEEQDFVNDRYEQWIGLNDRTIEGFLWSDGAPLLY
H -----SI-----L-----LLF
      660

750      760      770      780      790      800      810
M ENWNPQPDYSYFLSGENCVMVWHDQGWSDVPCNYHLSYCKMGLVSCGPPPLPLAQIFGRPRIRYAV
      :
H -----F-----PIQ-----
      670

820      830      840      850      860      870      880
M DTVLRYRCRDGLAQRNLPILRCQENGLWEAPQISCVPRRPGRALRSMDAPEGPRGQLSRHRKAPLTPPSS
      :
H -----LWVT-----
      670

```

M L

H -

Fig. 24K

**Fig. 24L**

[illegible]

**Fig. 24M**

|   |  |     |     |     |      |      |      |      |
|---|--|-----|-----|-----|------|------|------|------|
| H | CCTTTTCTGGGGCCAGGAGGCCCTGTGCCCCGCATTGGAGCCCACATCGCCACC               | 690 | 700 | 710 | 720  | 730  | 740  | 750  |
| M | CCTTCGCTGGAGCCCAAGAAAGCCTGCGCTCGCATAGGAGCCCGAATCGCCACC               | 660 | 670 | 680 | 690  | 700  | 710  | 720  |
| H | CGCCTACCTTGGGGGCTATGAGCAATGTGATGCTGGCTGGCTCGGATCAGACCGTGAGGTATCCCATC | 760 | 770 | 780 | 790  | 800  | 810  | 820  |
| M | TGCCTACCTCGGCGGCTATGAGCAGTGTGATGCAGGCTGGCTGTCCGACCAAAC               | 730 | 740 | 750 | 760  | 770  | 780  | 790  |
| H | CAGACCCACGAGAGGCCTGTTACGGAGACATGGATGGCTTCCCCGGGTCCGGAAC              | 830 | 840 | 850 | 860  | 870  | 880  | 890  |
| M | CAGAACCACGAGAGGCCTGCTCTGGAGACATGGATGGCTATCCTGGCGTGCGGAAC             | 800 | 810 | 820 | 830  | 840  | 850  | 860  |
| H | ACCCGGATGACCTCTATGATGTGTACTGTATTGCTGAAGACCTAAATGGAGAAC               | 900 | 910 | 920 | 930  | 940  | 950  | 960  |
| M | GTCCTGATGATCTCTATGATGTCTACTGTATTGCCGAAGACCTAAATGGAGAAC               | 870 | 880 | 890 | 900  | 910  | 920  | 930  |
| H | TCCAGAGAAGCTGACATTGGAGGAAGCACGGCGTACTGCCAGGAGCGGGTGCAGAGAT           | 970 | 980 | 990 | 1000 | 1010 | 1020 | 1030 |
| M | TCCCAGCAAGCTGACATGGGAGGAGGCTCGGGACTACTGTCTGGAACGTGGTGCA              | 940 | 950 | 960 | 970  | 980  | 990  | 1000 |

**Fig. 24N**

|   |  |      |      |      |      |      |      |
|---|--|------|------|------|------|------|------|
|   | 1040   | 1050 | 1060 | 1070 | 1080 | 1090 | 1100 |
| H | GGCCAACTGTATGCAGCCTGGGATGGTGGCCCTGGACCACTGCAGCCAGGGTGGCTAGCTGATGGCAGTG   |      |      |      |      |      |      |
|   | 1010   | 1020 | 1030 | 1040 | 1050 | 1060 | 1070 |
| M | GGCCAGCTGTACGCAGCCTGGAAATGGTGGCCCTGGACAGATGTAGCCCTGGCTGGCTGGCTGATGGCAGCG |      |      |      |      |      |      |
|   | 1110   | 1120 | 1130 | 1140 | 1150 | 1160 | 1170 |
| H | TGCGCTACCCCATCGTCACACCCAGCCAGCGCTGTGGTGGGGCTTGCCCTGGTGTCAAGACTCTCTTCCT   |      |      |      |      |      |      |
|   | 1080   | 1090 | 1100 | 1110 | 1120 | 1130 | 1140 |
| M | TGCGCTATCCCATCATCACACCCAGCCAAACGCTGTGGGGCGGCCCTGCCAGGAGTCAAGACCCCTCTTCCT |      |      |      |      |      |      |
|   | 1180   | 1190 | 1200 | 1210 | 1220 | 1230 | 1240 |
| H | CTTCCCCAACCACTGGCTTCCCCCAATAAGCACAGCCGCTTCAACGTCTACTGCTTCCGAGACTCGGGCC   |      |      |      |      |      |      |
|   | 1150   | 1160 | 1170 | 1180 | 1190 | 1200 | 1210 |
| M | CTTTCCCCAACCACTGGCTTCCCCCAGCAAGCACAGAACCGCTTCAATGTCTACTGCTTCCGAGACTCTGCC |      |      |      |      |      |      |
|   | 1250   | 1260 | 1270 | 1280 | 1290 | 1300 | 1310 |
| H | CAGCCTTCTGCCATCCCCTGAGGCCTCCAACCCAGCCTCCAACCCAGCCTCTGATGGACTAGAGGCTATCG  |      |      |      |      |      |      |
|   | 1220   | 1230 | 1240 | 1250 | 1260 | 1270 |      |
| M | CATCCCTCTGCTTCTGAGGCCTCTAGCCCGCCTC-----AGATGGACTTGAGGCCATTG              |      |      |      |      |      |      |
|   | 1320   | 1330 | 1340 | 1350 | 1360 | 1370 | 1380 |
| H | TCACAGTGACAGAGACCCCTGGAGGAACTGCAGCTGCCTCAGGAAGCCACAGAGAGTGAATCCCGTGGGGC  |      |      |      |      |      |      |
|   | 1280   | 1290 | 1300 | 1310 | 1320 | 1330 | 1340 |
| M | TCACAGTGACAGAAAAGCTGGAGGAACTGCAGCTGCCTCAGGAAGCGATGGAGAGCGAGTCTCGTGGGGC   |      |      |      |      |      |      |

Fig. 240

[illegible]

**Fig. 24P**



```

2080      2090      2100      2110      2120      2130
H  GACAGCGCCAGCGAGGTGGAGTGGCCGTGGTCCCGCATCAGGTAATT-----CTGCCCAAGGCTCA
    ::::: ::::: ::::: ::::: ::::: ::::: ::::: ::::: ::::: :::::
M  GACAGTGCACGCCACGCTGGAGTGGCTGTGGCTCCCTCATCAGGTGACTGTATCCCGAGCCCTGCCACA
1980      1990      2000      2010      2020      2030      2040

H  A-----C-TGC-----CCTCT--CTAT-----CCTA-CT-----CCT
    : :::: : :::: : :::: : :::: : :::: : :::: : :::: : ::::
M  ATGGTGGGACATGCTTGGAGGAGAAGGAGGTTTCCGCTGCCTATGTTGCCAGGCTATGGGGGGACCT
2050      2060      2070      2080      2090      2100      2110

2160      2170      2180      2190      2200
H  TTTC-----TTCCC--C---CTGCAGCTCTGG-----GTC--ACCTGA---CCTG---TAGTCCCTTT
    : : : : ::::: ::::: : : ::::: ::::: : : ::::: :::::
M  GTGCGATGTTGGCCTTCATTCTGCAGCCCTGGCTGGGAGGCCCTTCCAGGGAGCCTGTACAAGCAGCTTT
2120      2130      2140      2150      2160      2170      2180

H  AACCCAC-----CA-----TCA-TCCCAAACTCT-----C---CTGTCC-----TTT
    . : :::: : : : : ::::: ::::: : : ::::: ::::: : :
M  TCCACACGAAGGAGTTGGGAGGAGGCAGAAAGTCAGTGCCGAGCGCTAGGTGCTCATCTGACCAGCATCT
2190      2200      2210      2220      2230      2240      2250

H  GC-----CT-----TCATTCTCT-TACCC---ACC---TCTACCTATGGGT---CTC-----
    :: : : : : ::::: ::::: : : : : ::::: ::::: : :
M  GCACCCCTGAGGAGCAAGACTTTGTCAATGATCGATACCGGGAGTACCAGTGGATTGGGCTCAATGACAG
2260      2270      2280      2290      2300      2310      2320

```

Fig. 24R



Figure 24S

```

2280                2290    2300    2310    2320
H  --CAATCTCGGATATCCAC-----CTTGTGG-GTATCTCAGCTCTCCGGGT-CTT-TACCCGTGTG-AT
:  ::  :::::  :  ::  :  :::::  :  ::  :  :::::  :  ::  :  :::::  :  :
M  GACCATCGAGGGTGACTTCTTGTGGTCAGATGGTGGCCCTCTGCTCTATGAAAACTGGAACCCCTGGGCAG
2330    2340    2350    2360    2370    2380    2390

2330                2340    2350
H  CC---CAGC-----CCCGCC-----ACTG-----ACCA---TCTGTGA----
:  ::  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :
M  CCTGACAGCTACTTCCCTGTCTGGGGAGAACTGTGTGGTCATGGTGGCATGACCAGGACAGTGGAGTG
2400    2410    2420    2430    2440    2450    2460

2360    2370    2380    2390
H  ----CCCTTCC-CTGCCATTGGGCC--CTCCA-----CCTGTGG--CTCACATCTC
:  ::  :  :::::  :  ::  :  :::::  :  ::  :  :::::  :  ::  :  :::::  :  :
M  ATGTGCCCTGCAACTACCATCTATCCTACACCTGCAAGATGGGGCTTGTGTCTGTGGGCTC-CACCAC
2470    2480    2490    2500    2510    2520    2530

2400    2410    2420    2430    2440    2450
H  GCCAGCCCCA---CA-----GAGCATCCTCAG---GCCCTCCTCCAGGGTCTCTCATCACCTATTGCA
:  :::::  :  :  :  :::::  :  :  :  :::::  :  :  :  :::::  :  :  :  :::::  :
M  AGCTACCCCTGGCTCAAATATTGGTCGCCCTCGGCTGCGCTACGCGGTGGATACTGTGCTTCGATATCG
2540    2550    2560    2570    2580    2590    2600

2460                2470    2480
H  --GCCTT--CAGG---GCTCGGC-----CTATTTCCACTAC-----TCC
:  ::  .  :::::  :  ::  :  :::::  :  :  :  :::::  :  :  :  :::::  :  :
M  ATGCCGAGACGGGCTGGCTCAGCGCAACCTGCCGTGATCCGCTGCCAGGAGAATGGGCTTGGGAGGCC
2610    2620    2630    2640    2650    2660    2670

```

Fig. 24S

```

2490      2500      2510      2520      2530
H CTTCA-TCCGCCCTGTGTGCC-----GTCC---CCTTTAGCTGC-CTCCT-----ATTGATCTC
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
M CCTCAGATTTCCTGTGTACCCCGGAGGCCCTGGCCGTGCTCTGCGCTCCATGGACGCCCCAGAACGACCAC
2680      2690      2700      2710      2720      2730      2740

2540      2550      2560      2570      2580
H AGGGA-AGC-----CTGGGAGTC-CC-TTCTCACC--CCTC-AACCTCCGGAGT-CCAGGAGAAC
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
M GGGGACAGCTCTCGAGGCACAGGAAGCACCGTTGACACCGCCCTCCAGTCTCTAGGGAGCCTGGAAGAC
2750      2760      2770      2780      2790      2800      2810

2590      2600      2610      2620      2630
H CCGTACCCCCCA-CAGAGCCTTAA-GCAACTACT-----TCT-----GTGAAGTATTT
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
M TGCTGCCCCCAGCAGGACCCCTCTCACATCAACTGCCAGTGCTCTTCCCCATGATAGGGGTGACGTGAGA
2820      2830      2840      2850      2860      2870      2880

2640      2650
H ----TTTGACTGT--TTCA-----TGGAACA-----
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
M GGGGTGGGACTGAAATTTCAGAGGACAGCGCTCGAAGGGTTTCTGGGAAACACTTGGTGGCTCCGCCCC
2890      2900      2910      2920      2930      2940      2950

2660      2670      2680
H -----AGCCTTGAAAT-----AAATCTCTATTAA-----AC
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
M CTCACACAAGGCCCTCAGGTTTACCCGGTAAGTCCCTAAGTGCCTCAACTGCCCTCTCATGTCAGCTGC
2960      2970      2980      2990      3000      3010      3020

```

Fig. 24T

Fig. 24U

```

H CGCTTTGT-----AAC-----CAAAAAAAAAAAAAA 2690 2700
: : : : :
M CTCCTTGTCCCTCGATNTCGTNAGGGGACACTGTGCTATTTCGATCTTGATTGTCGAAGAGTTTTTAGGAT
3030 3040 3050 3060 3070 3080 3090
      : : : : :
2710
H AAA-----AAAAAAAGGGCGG--CC-----GC 2720 2730
      : : : : :
M GGAGTACCAGCAAAACCAGGTGGAAATAAAGTTGTCTGAACCCCAAGAAAAA
3100 3110 3120 3130 3140 3150

```

Fig. 24U

|                                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|--------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| GTCGACCACGGTCCGCCACGGCTCCGGCCC | ATG | GCG | CCG | CCC | CCC | GCC | GCC | GCC | CTC | GCC | CTC | GCC | CTG | CTC | L   | L   | 11  |     |     |     |
| S                              | A   | A   | A   | L   | T   | A   | A   | R   | P   | A   | P   | S   | P   | G   | L   | G   | P   | G   | 31  |     |
| TCC                            | GCC | GCG | GCG | CTC | ACG | CTG | GCG | GCC | CGG | CCC | GCG | CCT | AGC | CCC | GCG | CTC | GCG | CCC | GGA | 126 |
| P                              | E   | C   | F   | T   | A   | N   | G   | A   | D   | Y   | R   | G   | T   | Q   | N   | W   | T   | A   | L   | 51  |
| CCC                            | GAG | TGT | TTC | ACA | GCC | AAT | GGT | GCG | GAT | TAT | AGG | GGA | ACA | CAG | AAC | TGG | ACA | GCA | CTA | 186 |
| Q                              | G   | G   | K   | P   | C   | L   | F   | W   | N   | E   | T   | F   | Q   | H   | P   | Y   | N   | T   | L   | 71  |
| CAA                            | GGC | GGG | AAG | CCA | TGT | CTG | TTT | TGG | AAC | GAG | ACT | TTC | CAG | CAT | CCA | TAC | AAC | ACT | CTG | 246 |
| K                              | Y   | P   | N   | G   | E   | G   | G   | L   | G   | E   | H   | N   | Y   | C   | R   | N   | P   | D   | G   | 91  |
| AAA                            | TAC | CCC | AAC | GGG | GAG | GGG | GGC | CTG | GGT | GAG | CAC | AAC | TAT | TGC | AGA | AAT | CCA | GAT | GGA | 306 |
| D                              | V   | S   | P   | W   | C   | Y   | V   | A   | E   | H   | E   | D   | G   | V   | Y   | W   | K   | Y   | C   | 111 |
| GAC                            | GTG | AGC | CCC | TGG | TGC | TAT | GTG | GCA | GAG | CAC | GAG | GAT | GGT | GTC | TAC | TGG | AAG | TAC | TGT | 366 |
| E                              | I   | P   | A   | C   | Q   | M   | P   | G   | N   | L   | G   | C   | Y   | K   | D   | H   | G   | N   | P   | 131 |
| GAG                            | ATA | CCT | GCT | TGC | CAG | ATG | CCT | GGA | AAC | CTT | GGC | TGC | TAC | AAG | GAT | CAT | GGA | AAC | CCA | 426 |
| P                              | P   | L   | T   | G   | T   | S   | K   | T   | S   | N   | K   | L   | T   | I   | Q   | T   | C   | I   | S   | 151 |
| CCT                            | CCT | CTA | ACT | GGC | ACC | AGT | AAA | ACG | TCC | AAC | AAA | CTC | ACC | ATA | CAA | ACT | TGC | ATC | AGT | 486 |
| F                              | C   | R   | S   | Q   | R   | F   | K   | F   | A   | G   | M   | E   | S   | G   | Y   | A   | C   | F   | C   | 171 |
| TTT                            | TGT | CGG | AGT | CAG | AGG | TTC | AAG | TTT | GCT | GGG | ATG | GAG | TCA | GGC | TAT | GCT | TGC | TTC | TGT | 546 |

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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| G   | N   | N   | P   | D   | Y   | W   | K   | Y   | G   | E   | A   | A   | S   | T   | E   | C   | N   | S   | V   | 191  |
| GGA | AAC | AAT | CCT | GAT | TAC | TGG | AAG | TAC | GGG | GAG | GCA | GCC | AGT | ACC | GAA | TGC | AAC | AGC | GTC | 606  |
| C   | F   | G   | D   | H   | T   | Q   | P   | C   | G   | G   | D   | G   | R   | I   | I   | L   | F   | D   | T   | 211  |
| TGC | TTC | GGG | GAT | CAC | ACC | CAA | CCC | TGT | GGT | GGC | GAT | GGC | AGG | ATC | ATC | CTC | TTT | GAT | ACT | 666  |
| L   | V   | G   | A   | C   | G   | G   | N   | Y   | S   | A   | M   | S   | S   | V   | V   | Y   | S   | P   | D   | 231  |
| CTC | GTG | GGC | GCC | TGC | GGT | GGG | AAC | TAC | TCA | GCC | ATG | TCT | TCT | GTG | GTG | TAT | TCC | CCT | GAC | 726  |
| F   | P   | D   | T   | Y   | A   | T   | G   | R   | V   | C   | Y   | W   | T   | I   | R   | V   | P   | G   | A   | 251  |
| TTC | CCC | GAC | ACC | TAT | GCC | ACG | GGG | AGG | GTC | TGC | TAC | TGG | ACC | ATC | CGG | GTT | CCG | GGG | GCC | 786  |
| S   | H   | I   | H   | F   | S   | F   | P   | L   | F   | D   | I   | R   | D   | S   | A   | D   | M   | V   | E   | 271  |
| TCC | CAC | ATC | CAC | TTC | AGC | TTC | CCC | CTA | TTT | GAC | ATC | AGG | GAC | TCG | GCG | GAC | ATG | GTG | GAG | 846  |
| L   | L   | D   | G   | Y   | T   | H   | R   | V   | L   | A   | R   | F   | H   | G   | R   | S   | R   | P   | P   | 291  |
| CTT | CTG | GAT | GGC | TAC | ACC | CAC | CGT | GTC | CTA | GCC | CGC | TTC | CAC | GGG | AGG | AGC | CGC | CCA | CCT | 906  |
| L   | S   | F   | N   | V   | S   | L   | D   | F   | V   | I   | L   | Y   | F   | F   | S   | D   | R   | I   | N   | 311  |
| CTG | TCC | TTC | AAC | GTC | TCT | CTG | GAC | TTC | GTC | ATC | TTG | TAT | TTC | TTC | TCT | GAT | CGC | ATC | AAT | 966  |
| Q   | A   | Q   | G   | F   | A   | V   | L   | Y   | Q   | A   | V   | K   | E   | E   | L   | P   | Q   | E   | R   | 331  |
| CAG | GCC | CAG | GGA | TTT | GCT | GTT | TTA | TAC | CAA | GCC | GTC | AAG | GAA | GAA | CTG | CCA | CAG | GAG | AGG | 1026 |

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# TABLE 1. DELETED

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| P   | A   | V   | N   | Q   | T   | V   | A   | E   | V   | I   | T   | E   | Q   | A   | N   | L   | S   | V   | S   | 351  |
| CCC | GCT | GTC | AAC | CAG | ACG | GTG | GCC | GAG | GTG | ATC | ACG | GAG | CAG | GCC | AAC | CTC | AGT | GTC | AGC | 1086 |
| A   | A   | R   | S   | S   | K   | V   | L   | Y   | V   | I   | T   | T   | S   | P   | S   | H   | P   | P   | Q   | 371  |
| GCT | GCC | CGG | TCC | TCC | AAA | GTC | CTC | TAT | GTC | ATC | ACC | ACC | AGC | CCC | AGC | CAC | CCA | CCT | CAG | 1146 |
| T   | V   | P   | G   | S   | N   | S   | W   | A   | P   | P   | M   | G   | A   | G   | S   | H   | R   | V   | E   | 391  |
| ACT | GTC | CCA | GGT | AGC | AAT | TCC | TGG | GCG | CCA | CCC | ATG | GGG | GCT | GGA | AGC | CAC | AGA | GTT | GAA | 1206 |
| G   | W   | T   | V   | Y   | G   | L   | A   | T   | L   | L   | I   | L   | T   | V   | T   | A   | I   | V   | A   | 411  |
| GGA | TGG | ACA | GTC | TAT | GGT | CTG | GCA | ACT | CTC | CTC | ATC | CTC | ACA | GTC | ACA | GCC | ATT | GTA | GCA | 1266 |
| K   | I   | L   | L   | H   | V   | T   | F   | K   | S   | H   | R   | V   | P   | A   | S   | G   | D   | L   | R   | 431  |
| AAG | ATA | CTT | CTG | CAC | GTC | ACA | TTC | AAA | TCC | CAT | CGT | GTT | CCT | GCT | TCA | GGG | GAC | CTT | AGG | 1326 |
| D   | C   | H   | Q   | P   | G   | T   | S   | G   | E   | I   | W   | S   | I   | F   | Y   | K   | P   | S   | T   | 451  |
| GAT | TGT | CAT | CAA | CCA | GGG | ACT | TCG | GGG | GAA | ATC | TGG | AGC | ATT | TTT | TAC | AAG | CCT | TCC | ACT | 1386 |
| S   | I   | S   | I   | F   | K   | K   | K   | L   | K   | G   | Q   | S   | Q   | Q   | D   | D   | R   | N   | P   | 471  |
| TCA | ATT | TCC | ATC | TTT | AAG | AAG | AAA | CTC | AAG | GGT | CAG | AGT | CAA | CAA | GAT | GAC | CGC | AAT | CCC | 1446 |
| L   | V   | S   | D   | *   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 476  |
| CTT | GTG | AGT | GAC | TAA |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1461 |

Fig. 25C

AAACCCACTGTGCTAGGACTTGAGGTCCTCTTTGAGCTCAAGGCTGCCGTGGTCAACCTCTCCTGTGTTCTCTC 1540  
 TGACAGACTCTTCCCTCTCTCCCTCTGCTGCTGCTCTTTCGGGGAACCTCTCCTACAGACTAGGAAGAGGCACCT 1620  
 GCTGCCAGGGCAGCAGAGCCTGGATTCTCTCTGCTT 1657

Fig. 25D

GTCGACCCACGGCTCCGCGGCTCCCGGTGCTGCTGCCCCCTCTGCCCCGGCGCGGGGTCCCGCACTGACGGCC 79

M A P A P A A R L A L L S A A A L T L A 19  
 C ATG GCG CCG CCC GCC GCC CGT CTC GCG CTG CTC TCC GCC GCT GCG CTC ACT CTG GCG 137

A R P A P A P G P R S G P E C F T A N G A D 39  
 GCC CGG CCC GCG CCC GGT CCC CGC TCC GGC CCC GAG TGC TTC ACA GCC AAC GGT GCA GAT 197

Y R G T Q S W T A L Q G G K P C L F W N 59  
 TAC AGG GGA ACA CAG AGC TGG ACA GCG CTG CAA GGT GGG AAG CCA TGT CTG TTC TGG AAC 257

E T F Q H P Y N T L K Y P N G E G L G 79  
 GAG ACT TTC CAG CAT CCG TAC AAC ACG CTG AAG TAC CCC AAC GGG GAA GGA GGA CTG GGC 317

E H N Y C R N P D G D V S P W C Y V A E 99  
 GAG CAC AAT TAT TGC AGA AAT CCA GAT GGA GAC GTG AGC CCT TGG TGC TAC GTG GCC GAG 377

Fig. 25E

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| H   | E   | D   | G   | G   | V   | Y   | W   | K   | Y   | C   | E   | I   | P   | A   | C   | Q   | M   | P   | G   | N   | 119 |
| CAT | GAG | GAC | GGA | GTC | TAC | TAC | TGG | AAG | TAC | TGT | GAA | ATT | CCT | GCC | TGC | CAG | ATG | CCT | GGA | AAC | 437 |
| L   | G   | C   | Y   | K   | D   | H   | G   | N   | P   | P   | P   | P   | L   | T   | G   | T   | S   | K   | T   | S   | 139 |
| CTT | GGC | TGC | TAC | AAG | GAT | CAT | CAT | GGA | AAC | CCA | CCT | CCT | CTC | ACG | GGC | ACC | AGT | AAA | ACC | TCT | 497 |
| N   | K   | L   | T   | I   | Q   | T   | C   | I   | S   | F   | F   | C   | R   | S   | Q   | R   | F   | K   | F   | A   | 159 |
| AAC | AAG | CTC | ACC | ATA | CAA | ACC | TGT | ATC | AGC | TTC | TGT | TGT | CGG | AGT | CAG | AGA | TTC | AAG | TTT | GCT | 557 |
| G   | M   | E   | S   | G   | Y   | A   | C   | F   | C   | G   | G   | N   | N   | P   | D   | Y   | W   | K   | H   | G   | 179 |
| GGG | ATG | GAG | TCA | GGC | TAT | GCC | TGC | TTC | TGT | GGG | AAC | AAT | CCT | GAC | TAC | TGG | TGG | AAG | CAC | GGG | 617 |
| E   | A   | A   | S   | T   | E   | C   | N   | S   | V   | C   | C   | F   | G   | D   | H   | T   | Q   | P   | C   | G   | 199 |
| GAG | GCG | GCC | AGC | ACC | GAG | TGC | AAT | AGT | GTC | TGC | TTC | TTC | GGG | GAC | CAC | ACG | CAG | CCC | TGC | GGT | 677 |
| G   | D   | G   | R   | I   | I   | L   | F   | D   | T   | L   | L   | V   | G   | A   | C   | G   | G   | N   | Y   | S   | 219 |
| GGG | GAC | GGC | AGG | ATT | ATC | CTC | TTT | GAC | ACT | CTC | GTG | GGC | GGC | TGC | TGC | GGT | GGG | AAC | TAC | TCA | 737 |
| A   | M   | A   | A   | V   | V   | Y   | Y   | S   | P   | D   | F   | P   | D   | T   | Y   | A   | T   | G   | R   | V   | 239 |
| GCC | ATG | GCA | GCC | GTG | GTG | TAC | TAC | TCC | CCT | GAC | TTC | CCT | GAC | ACC | TAC | GCC | ACT | GGC | AGA | GTC | 797 |
| C   | Y   | W   | T   | I   | R   | V   | P   | P   | G   | A   | S   | R   | I   | H   | F   | N   | F   | T   | L   | F   | 259 |
| TGC | TAC | TGG | ACC | ATC | CGG | GTT | CCA | GGA | GCC | TCT | CGC | ATC | CAT | TTC | AAC | TTC | ACC | CTG | TTT | 857 |     |
| D   | I   | R   | D   | S   | A   | D   | M   | V   | E   | L   | L   | L   | D   | G   | Y   | T   | H   | R   | V   | L   | 279 |
| GAT | ATC | AGG | GAC | TCT | GCA | GAC | ATG | GTG | GAG | CTG | CTG | GAC | GGC | TAC | ACC | CAC | CAC | CGC | GTC | CTG | 917 |

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Fig. 25F



# FIG. 25G

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| V   | R   | L   | S   | G   | R   | S   | R   | P   | P   | L   | S   | F   | N   | V   | S   | L   | D   | F   | V   | 299  |
| GTC | CGG | CTC | AGT | GGG | AGG | AGC | CGC | CCG | CCT | CTG | TCT | TTC | AAT | GTC | TCT | CTG | GAT | TTT | GTC | 977  |
| I   | L   | Y   | F   | F   | S   | D   | R   | I   | N   | Q   | A   | Q   | G   | F   | A   | V   | L   | Y   | Q   | 319  |
| ATT | TTG | TAT | TTC | TTC | TCT | GAT | CGC | ATC | AAT | CAG | GCC | CAG | GGA | TTT | GCT | GTG | TTG | TAC | CAA | 1037 |
| A   | T   | K   | E   | E   | P   | P   | Q   | E   | R   | P   | A   | V   | N   | Q   | T   | L   | A   | E   | V   | 339  |
| GCC | ACC | AAG | GAG | GAA | CCG | CCA | CAG | GAG | AGA | CCT | GCT | GTC | AAC | CAG | ACC | CTG | GCA | GAG | GTG | 1097 |
| I   | T   | E   | Q   | A   | N   | L   | S   | V   | S   | A   | A   | H   | S   | S   | K   | V   | L   | Y   | V   | 359  |
| ATC | ACC | GAG | CAA | GCC | AAC | CTC | AGT | GTC | AGC | GCT | GCC | CAC | TCC | TCC | AAA | GTC | CTC | TAT | GTC | 1157 |
| I   | T   | P   | S   | P   | S   | H   | P   | P   | Q   | T   | A   | Q   | V   | A   | I   | P   | G   | H   | R   | 379  |
| ATC | ACC | CCC | AGC | CCC | AGC | CAC | CCT | CCG | CAG | ACT | GCC | CAG | GTA | GCC | ATT | CCT | GGG | CAC | CGT | 1217 |
| Q   | L   | G   | P   | T   | A   | T   | E   | W   | K   | D   | G   | L   | C   | T   | A   | W   | R   | P   | S   | 399  |
| CAG | TTG | GGG | CCA | ACA | GCC | ACA | GAG | TGG | AAG | GAT | GGA | CTG | TGT | ACG | GCC | TGG | CGA | CCC | TCC | 1277 |
| S   | S   | S   | Q   | S   | Q   | Q   | L   | S   | Q   | R   | F   | F   | C   | M   | S   | H   | L   | N   | L   | 419  |
| TCA | TCC | TCA | CAG | TCA | CAG | CAG | TTG | TCG | CAA | AGA | TTC | TTC | TGC | ATG | TCA | CAT | TTA | AAT | CTC | 1337 |
| I   | E   | S   | L   | H   | Q   | E   | T   | L   | G   | T   | V   | V   | S   | L   | G   | L   | L   | E   | I   | 439  |
| ATC | GAG | TCC | CTG | CAT | CAG | GAG | ACC | TTA | GGG | ACT | GTC | GTC | AGC | CTG | GGG | CTT | CTG | GAG | ATA | 1397 |
| S   | G   | P   | F   | S   | M   | N   | L   | P   | L   | Q   | S   | P   | S   | L   | R   | R   | S   | S   | R   | 459  |
| TCT | GGA | CCA | TTT | TCT | ATG | AAC | CTT | CCA | CTA | CAA | TCT | CCA | TCT | TTA | AGA | AGA | AGC | TCA | AGG | 1457 |

Fig. 25G

V R V N K M T A I P S \* 471  
GTC AGA GTC AAC AAG ATG ACC GCA ATC CCC TCG TGA 1493

GTACTGAAGCCACGCCCTGCATGAGAGCTCCGCTCCAAGCTCGAGTTTGCTCCCCCTGAGTTCTCCTCTGATGAGTTC 1572  
CCTGCCCTCCCATTCACCAACCATCTCTTTTGGAGCACCCCTGCTTTAGAGGCAGCCAGCTGGGATCCTCCATCACAT 1651  
GTACCAGCCCTGGCTCTGCTGGGATAGTAAAGACAGGCCCCAGGCTGACAGGACACAGCTGGACCTGACTCCAGAAGA 1730  
CTCTTGGGTGGGAGGTATAGTGTAGGATGAGTTTCTTCTGCTTCTCTCTGTTTGTCCACATACAGATCGGTTTC 1809  
CCCTGTCTTTACAGTTTGCAATAGAGCCAGACTGAAAGAACTGTCAAGTTTCTAGGCTGGCTGGTTCCCACTAAGA 1888  
GTGGCAATTGGCGCCCTAGAGGCCCAAGGCCAGTGTAGGCTTTCTCTGCTGCCAACTACCATGTGTCTATCT 1967  
AGTCCGAGGGGACTGAGAGCAGGGCCACACCATGTCATCTTTCTAGAGGGTTCTTTTAGTACCCACTGACCAATGG 2046  
GGCAAGCCCTGAGGATTGGTCCATCTGTTGTCCATGGAACAGACACAGTGAACCTCCTGGATACTAGACTTAACCTAGCC 2125  
TAGCCCTCAAGTAGTTGCCAATCCTGTGGAATCAGAAATTCAGCCCTGTCTTCTGTCCCTCAGCCCCAAGCCTGTAGCCCTAG 2204  
AGCTGGGGCTGTAGCCTAGAGCTGGGGCTGTAGCCTAGAGCTGGGGCTGTAGCACAGAGCTGGGGCTGTAGCCTAGAGC 2283  
TGGGGCTGTAGCACAGAGCTGGGGCTGTAGCCTAGAGCTGGGGCTGTAGCACAGAGCTGGGGCTGTAGCACAGAGCTGG 2362  
GGCTGTAGCCTAGAGCTGGGGCTGTAGCACAGAGCTGGGGCTGTAACTCAGCGATCAAGAGCTTGCTTTGTATACATCG 2441  
GACCCCTAGGTTCTATCCACGACCTATCAGAAGGTGGGAGAGAAAAGACTGCACCATAGCATGCGGGCAGCATCTGTGG 2520  
TTCCTACGTGAGGTGTCATCATTTTAAAGCAGATCAAAACTACCGCGAGTTTGTCTCTTTGTCTCTTATCATGGGAGC 2599  
AGAGTAGGAGTAAGGCTCTGGTCTTGCTCATTTGCTCCCTCAGACAGGAGGAGGAGGAAAGTCAAGGCTTGGGAACCTGGA 2678  
GATCCCTCCAGGAAAAGCTGCAAGATTGAGAGACCCAGCTGCAGTTGGGAGAGGAAGGCCCATCCCCGACTGAGAAAGTC 2757  
CTGCAGTCTGGAAAGTGGCCCTTTGTACGACGAGCTGTGCCCCTGAAAGGTAGACCTTGGTCACTCTCCTGCCAGCCCTTGA 2836  
GCCTCTGCTCTCCTGGGTACCCCTCCTGGAACACCATGCTAACCTTCCCCGAGTCTCTCAGTCACTGCCATTGAGGCCCTC 2915  
TCCTCTAGCTGCTCTCCAGGACTGTCTGGGCCATCTGGGGATCAGGAGAGGAGGAGGAGTACTGACGAGGCAG 2994  
TGACCTGAGCTGATGAGTCAACCAGAGGACACAGAGTCTACAGTGGGCTGGCTGGCTCAGCTCCTATGGGAGGCC 3073  
TACAGGGGTACTAAGCTAGGGGTCTATCTCATTTGATCTGGGAAAGGCTACAGGCTCCTGGATGTGAAGACAGGCC 3152  
CACTACATAAGAAGACCACTGGAAATAGACTGACAGGAGCAGGTTCCACTCTAGGCTGTCCATAGCGTTTGCAGGACTC 3231

Fig. 25H

CCTGAGACCAAGTTGAGTCACAGAGTGCCATGTGCGTAGTGCCATAAAGGATATGGTTCTTAACCAGGGAAGGCTC 3310  
 ATAGCAGGCCAGGACATTTTTCAGCTCAGAGCACTGGCCCCAGGCTTCCCTCTAAGCCACCACCTCACCTGTCTCTCCT 3389  
 ATCTCGGACACAGGAAGCAAGCCCCAGTGTGTGGCAGCTGCGGCTCAGCATTTGGTGTCCCCAGGAAGGCGGTGGATG 3468  
 TGCCACGCTCCTTTTGTGTGGCCTGCGACAGCCCCAACACTGCAGGGCCACCTTCTCTCTTGGGGGTAGGGACAC 3547  
 ATAAGGAAAACATAACCCACCTCCAAACACAGAGGACAGTGGGAAGGAAGGCTGTAAATCACCCAGGCCAGACCTC 3626  
 CAGAAATGACAGGCACAGTCTGTTAGAACCTGTAGGCAGCCAGTCACAGAGGGCCTTTGTGCTGGTAACACCCCTGCCCTG 3705  
 GAGCATAGGGGTAAGCCGAGGAGAGAGCAGCCCTCAGAGACATCAGCTAAAACATAGGTGCCCTATGTCCCTCCCT 3784  
 TCCTGTCACACTGCTTACAAAGCAGAGACAGAGTAGGAAGAGGTCTTCATCCTCTCCACATCAGCAAGGATAGGGCT 3863  
 GCGGCTGCCATAAGTGAGCAAGGAGAACAGAGCTCTGGACTTCTCTAAATGTGGGCTCTGGCTTCAGACTCCTCAGCCA 3942  
 AAAGCTCTTGAAGATCAAAGCTCTGGCGGTACAGCTGTCTGGCCTGTGGGCCAGCCCCATGGGATGTGCCCTGGGCCAG 4021  
 GTGCCACCCACGGCTCACTGTCAATCCAGGAGGACCCACCTGATGCTCCTCATCATCCGCTGGCCTGACACTATCA 4100  
 GAGCTCGCGCGGCTGTTGCCAGGGACAGACTGACTACACTTGACCTTCAAGAGCACTTAGAAGTGAGTGCCCTCCAGA 4179  
 CTCGTGCAGCCTCTGCAGGGGCCACACAAGTCTCCCGAGGCCAAGTCCACAAAGCTCCATGGTTCCCTGGCTCCTCCTCCT 4258  
 GTGGAGTGCTCCTGTTGATGTCTGAGGTCTGCTTTGGGTACCGCCTGGGAACCTGCTAACCTCCGATTTGGTCCCTTTGT 4337  
 GTCCTGTTTACTGCTCCTTCTACCTCCAGGTCACTTAGCTCTGGCTGCTGGAGTGCGGTGGGATGCT 4416  
 GGCTGACCCCCACCTGGTCTGCCAACAGAACCTGGGGGCTCACACGGGCTCCTGTCTTGCCAAAGCTGGAGCTGAGC 4495  
 AACTGGCCCCAGGCTGAGTGGGCAGAGCAAAACAAGTGGAAGGGGATCTCTCTCCTTAGAGGGAGGTGGCCGAAGGTGT 4574  
 AGATCCAGCGAGGAGCTGCCATCCCCGCCACCTTCATAGCAGCAAGACCTTCCCATTTCCAATCTCACCTCCAGCAG 4653  
 GGATATGACTTTGGACAACAAGGCTTTATTTGTAAATATGCTCTTAATATGCAACTTTGAGAAATAAGATAGAAACATCA 4732  
 TGTATTTTAAATATAAATGAAGTGTGACACACTGTATACAATTTAAATATATATTTTAGGATTTTGTATTAAAGAA 4811  
 AATGGAATGTGATGGTAACTTTTACAAAAGAGAGAAAATGTTATTTTACTGTTTGAAGAAAATAAATATTCTCA 4890  
 TTGTTGTAGAAAAAATAAAAAAAGGGGCGCGC 4928

Fig. 25I

|      |  |     |     |     |     |     |     |
|------|--|-----|-----|-----|-----|-----|-----|
| Hum. | MAPPAARLALLSAAALTLAARPA  | 20  | 30  | 40  | 50  | 60  | 70  |
|      | SPGLGPGPECFTANGADYRGTONWTALQGGKPC                                      |     |     |     |     |     |     |
|      | LFWNETFQHPYNT  |     |     |     |     |     |     |
| Mur. | MAPPAARLALLSAAALTLAARPA  | 20  | 30  | 40  | 50  | 60  |     |
|      | PGPR--SGPECFTANGADYRGTSWTALQGGKPC                                      |     |     |     |     |     |     |
|      | LFWNETFQHPYNT  |     |     |     |     |     |     |
| Hum. | LKYPNGEGGLGEHNYCRNPDGDVSPWCYVAEHEDGVYWKYCEIPACQMPGNLGCYKDHGNPPPLTGTSKT | 80  | 90  | 100 | 110 | 120 | 130 |
|      | 140  |     |     |     |     |     |     |
| Mur. | LKYPNGEGGLGEHNYCRNPDGDVSPWCYVAEHEDGVYWKYCEIPACQMPGNLGCYKDHGNPPPLTGTSKT | 70  | 80  | 90  | 100 | 110 | 120 |
|      | 130  |     |     |     |     |     |     |
| Hum. | SNKLTIQTCISFCRSQRFK  | 150 | 160 | 170 | 180 | 190 | 200 |
|      | FAGMESGYACFCGNNPDYWKYGEAASTECNSVCFGDHTQPCGGDGRILFD                     |     |     |     |     |     |     |
| Mur. | SNKLTIQTCISFCRSQRFK  | 140 | 150 | 160 | 170 | 180 | 190 |
|      | FAGMESGYACFCGNNPDYWKHGEAASTECNSVCFGDHTQPCGGDGRILFD                     |     |     |     |     |     |     |
| Hum. | TLVGACGGNYSAMSSVVYSPDFPDYATGRVCYWTIRVPGASHIHFSFPLFDIRDSADMVELLDGYTHRV  | 220 | 230 | 240 | 250 | 260 | 270 |
|      | 280  |     |     |     |     |     |     |
| Mur. | TLVGACGGNYSAMAAVVYSPDFPDYATGRVCYWTIRVPGASRIHFNFTLFDIRDSADMVELLDGYTHRV  | 210 | 220 | 230 | 240 | 250 | 260 |
|      | 270  |     |     |     |     |     |     |

Fig. 25J

|      |   |          |       |               |         |        |       |
|------|---|----------|-------|---------------|---------|--------|-------|
| Hum. | 290   | 300      | 310   | 320           | 330     | 340    | 350   |
|      | LARFHGRSRPPLSFNVSLDFVILYFFSDRINQAQGFVLYQAVKEELPQERP | AVNQTVAE | VITEQ | ANLSV         |         |        |       |
|      | ...   | ...      | ...   | ...           | ...     | ...    | ...   |
| Mur. | 280   | 290      | 300   | 310           | 320     | 330    | 340   |
|      | LVRLSGRSRPPPLSFNVSLDFVILYFFSDRINQAQGFVLYQATKEEPPQ   | ERP      | AVNQT | LA            | E       | VITEQ  | ANLSV |
|      | ...   | ...      | ...   | ...           | ...     | ...    | ...   |
| Hum. | 360   | 370      | 380   | 390           | 400     | 410    | 420   |
|      | SAARSSKVLYVITTSPPSHPPQTVPGSNSWAPPMGAGSHRVEGTVVYGL   | ATLLIL   | TVTAI | VA            | KILL    | HVTFK  |       |
|      | ...   | ...      | ...   | ...           | ...     | ...    | ...   |
| Mur. | 350   | 360      | 370   | 380           | 390     | 400    | 410   |
|      | SAAHSSKVLYVITTSPPSHPPQTAQVAIPGHRQLGPTA---           | TEWKD    | -GLCT | AWR           | PSSSSQ  | SQLSQR | FFFCM |
|      | ...   | ...      | ...   | ...           | ...     | ...    | ...   |
| Hum. | 430   | 440      | 450   | 460           | 470     |        |       |
|      | SHRVPASGDLRDCHQPGTSGEISIFYKPS                       | TSISIF   | FKK   | KLK           | QSQ-Q   | DDRN   | PLVSD |
|      | ...   | ...      | ...   | ...           | ...     | ...    | ...   |
| Mur. | 420   | 430      | 440   | 450           | 460     | 470    |       |
|      | SHLNLI  | ESLHQ    | ETLGT | VVSLGLLEISGPF | SMNLPLQ | SPSLRR | SRVRV |
|      | ...   | ...      | ...   | ...           | ...     | ...    | ...   |

Fig. 25K

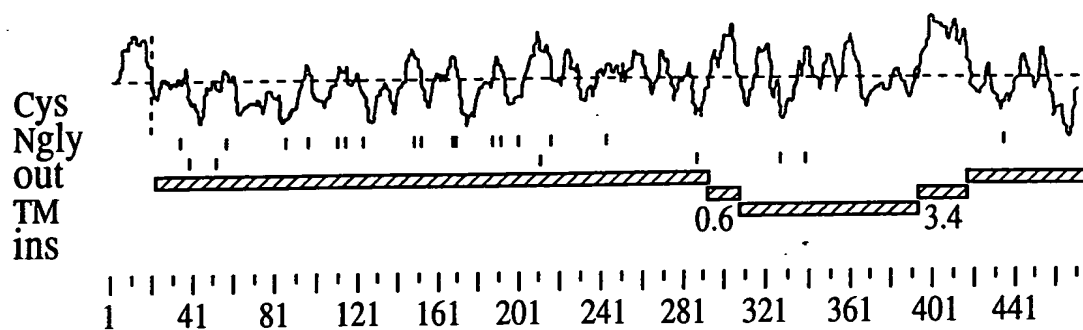


Fig. 25L

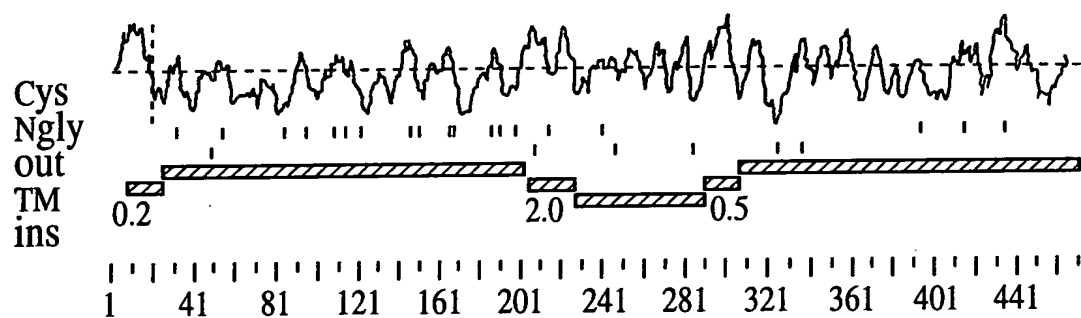


Fig. 25M

|   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| GCGGCCGCTCGCATCTAGAACTAGTA  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ATG | ATG | CTG | CCT | CAA | AAC | TCG | TGG | CAT | ATT | GAT | TTT | GGA | 13 |
| R C C C H Q N L F S A V V T C I L L N   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |     |     |     |     |     |     |     |     |     |     | 33  |    |
| AGA TGC TGC TGT CAT CAG AAC CTT TTC TCT GCT GCT GTA ACT TGC ATC CTG CTC CTG AAT     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |     |     |     |     |     |     |     |     |     |     | 126 |    |
| S C C F L I S S F N G T D L E L R L V N G   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |     |     |     |     |     |     |     |     |     |     | 53  |    |
| TCC TGC TTT CTC ATC AGC AGT TTT AAT GGA ACA GAT TTG GAG TTG AGG CTG GTC AAT GGA     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |     |     |     |     |     |     |     |     |     |     | 186 |    |
| D G P C S G T V E V K F Q G Q W G T V C   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |     |     |     |     |     |     |     |     |     |     | 73  |    |
| GAC GGT CCC TGC TCT GGG ACA GTG GAG GTG AAA TTC CAG GGA CAG TGG GGG ACT GTG TGT     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |     |     |     |     |     |     |     |     |     |     | 246 |    |
| D D G W N T T A S T V V C K Q L G C P F   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |     |     |     |     |     |     |     |     |     |     | 93  |    |
| GAT GAT GGG TGG AAC ACT ACT GCC TCA ACT GTC GTG TGC AAA CAG CTT GGA TGT CCA TTT     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |     |     |     |     |     |     |     |     |     |     | 306 |    |
| S F A M F R F G Q A V T R H G K I W L D   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |     |     |     |     |     |     |     |     |     |     | 113 |    |
| TCT TTC GCC ATG TTT CGT TTT GGA CAA GCC GTG ACT AGA CAT GGA AAA ATT TGG CTT GAT     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |     |     |     |     |     |     |     |     |     |     | 366 |    |
| D V S C Y G N E S A L W E C Q H R E W G   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |     |     |     |     |     |     |     |     |     |     | 133 |    |
| GAT GTT TCC TGT TAT GGA AAT GAG TCA GCT CTC TGC TGG GAA TGT CAA CAC CGG GAA TGG GGA |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |     |     |     |     |     |     |     |     |     |     | 426 |    |
| S H N C Y H G E D V G V N C Y G E A N L   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |     |     |     |     |     |     |     |     |     |     | 153 |    |
| AGC CAT AAC TGT TAT CAT GGA GAA GAT GTT GGT GTG AAC TGT TAT GGT GAA GCC AAT CTG     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |     |     |     |     |     |     |     |     |     |     | 486 |    |

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Fig. 26A

# Sequence

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| G   | L   | R   | L   | V   | D   | G   | N   | N   | S   | C   | S   | G   | R   | V   | E   | V   | K   | F   | Q   | 173  |
| GGT | TTG | AGG | CTA | GTG | GAT | GGA | AAC | AAC | TCC | TGT | TCA | GGG | AGA | GTG | GAG | GTG | AAA | TTC | CAA | 546  |
| E   | R   | W   | G   | T   | I   | C   | D   | D   | G   | W   | N   | L   | N   | T   | A   | A   | V   | V   | C   | 193  |
| GAA | AGG | TGG | GGG | ACT | ATA | TGT | GAT | GAT | GGG | TGG | AAC | TTG | AAT | ACT | GCT | GCC | GTG | GTG | TGC | 606  |
| R   | Q   | L   | G   | C   | P   | S   | S   | F   | I   | S   | S   | G   | V   | V   | N   | S   | P   | A   | V   | 213  |
| AGG | CAA | CTA | GGA | TGT | CCA | TCT | TCT | TTT | ATT | TCT | TCT | GGA | GTT | GTT | AAT | AGC | CCT | GCT | GTA | 666  |
| L   | R   | P   | I   | W   | L   | D   | D   | I   | L   | C   | Q   | G   | N   | E   | L   | A   | L   | W   | N   | 233  |
| TTG | CGC | CCC | ATT | TGG | CTG | GAT | GAC | ATT | TTA | TGC | CAG | GGG | AAT | GAG | TTG | GCA | CTC | TGG | AAT | 726  |
| C   | R   | H   | R   | G   | W   | G   | N   | H   | D   | C   | S   | H   | N   | E   | D   | V   | T   | L   | T   | 253  |
| TGC | AGA | CAT | CGT | GGA | TGG | GGA | AAT | CAT | GAC | TGC | AGT | CAC | AAT | GAG | GAT | GTC | ACA | TTA | ACT | 786  |
| C   | Y   | D   | S   | S   | D   | L   | E   | L   | R   | L   | V   | G   | G   | T   | N   | R   | C   | M   | G   | 273  |
| TGT | TAT | GAT | AGT | AGT | GAT | CTT | GAA | CTA | AGG | CTT | GTA | GGT | GGA | ACT | AAC | CGC | TGT | ATG | GGG | 846  |
| R   | V   | E   | L   | K   | I   | Q   | G   | R   | W   | G   | T   | V   | C   | H   | H   | K   | W   | N   | N   | 293  |
| AGA | GTA | GAG | CTG | AAA | ATC | CAA | GGA | AGG | TGG | GGG | ACC | GTA | TGC | CAC | CAT | AAG | TGG | AAC | AAT | 906  |
| A   | A   | A   | D   | V   | V   | C   | K   | Q   | L   | G   | C   | G   | T   | A   | L   | H   | F   | A   | G   | 313  |
| GCT | GCA | GCT | GAT | GTC | GTA | TGC | AAG | CAG | TTG | GGA | TGT | GGA | ACC | GCA | CTT | CAC | TTT | GCT | GGC | 966  |
| L   | P   | H   | L   | Q   | S   | G   | S   | D   | V   | V   | W   | L   | D   | G   | V   | S   | C   | S   | G   | 333  |
| TTG | CCT | CAT | TTG | CAG | TCA | GGG | TCT | GAT | GTT | GTA | TGG | CTT | GAT | GGT | GTC | TCC | TGC | TCC | GGT | 1026 |

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Fig. 26B



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| N   | E   | S   | F   | L   | W   | D   | C   | R   | H   | S   | G   | T   | V   | N   | F   | D   | C   | L   | H   | 353  |
| AAT | GAA | TCT | TTT | CTT | TGG | GAC | TGC | AGA | CAT | TCC | GGA | ACC | GTC | AAT | TTT | GAC | TGT | CTT | CAT | 1086 |
| Q   | N   | D   | V   | S   | V   | I   | C   | S   | D   | G   | A   | D   | L   | E   | L   | R   | L   | A   | D   | 373  |
| CAA | AAC | GAT | GTG | TCT | GTG | ATC | TGC | TCA | GAT | GGA | GCA | GAT | TTG | GAA | CTG | CGA | CTA | GCA | GAT | 1146 |
| G   | S   | N   | N   | C   | S   | G   | R   | V   | E   | V   | R   | I   | H   | E   | Q   | W   | W   | T   | I   | 393  |
| GGA | AGT | AAC | AAT | TGT | TCA | GGG | AGA | GTA | GAG | GTG | AGA | ATT | CAT | GAA | CAG | TGG | TGG | ACA | ATA | 1206 |
| C   | D   | Q   | N   | W   | K   | N   | E   | Q   | A   | L   | V   | V   | C   | K   | Q   | L   | G   | C   | P   | 413  |
| TGT | GAC | CAG | AAC | TGG | AAG | AAT | GAA | CAA | GCC | CTT | GTG | GTT | TGT | AAG | CAG | CTA | GGA | TGT | CCG | 1266 |
| F   | S   | V   | F   | G   | S   | R   | R   | A   | K   | P   | S   | N   | E   | A   | R   | D   | I   | W   | I   | 433  |
| TTC | AGC | GTC | TTT | GGC | AGT | CGT | CGT | GCT | AAA | CCT | AGT | AAT | GAA | GCT | AGA | GAC | ATT | TGG | ATA | 1326 |
| N   | S   | I   | S   | C   | T   | G   | N   | E   | S   | A   | L   | W   | D   | C   | T   | Y   | D   | G   | K   | 453  |
| AAC | AGC | ATA | TCT | TGC | ACT | GGG | AAT | GAG | TCA | GCT | CTC | TGG | GAC | TGC | ACA | TAT | GAT | GGA | AAA | 1386 |
| A   | K   | R   | T   | C   | F   | R   | R   | S   | D   | A   | G   | V   | I   | C   | S   | D   | K   | A   | D   | 473  |
| GCA | AAG | CGA | ACA | TGC | TTC | CGA | AGA | TCA | GAT | GCT | GGA | GTA | ATT | TGT | TCT | GAT | AAG | GCA | GAT | 1446 |
| L   | D   | L   | R   | L   | V   | G   | A   | H   | S   | P   | C   | Y   | G   | R   | L   | E   | V   | K   | Y   | 493  |
| CTG | GAC | CTA | AGG | CTT | GTC | GGG | GCT | CAT | AGC | CCC | TGT | TAT | GGG | AGA | TTG | GAG | GTG | AAA | TAC | 1506 |
| Q   | G   | E   | W   | G   | T   | V   | C   | H   | D   | R   | W   | S   | T   | R   | N   | A   | A   | V   | V   | 513  |
| CAA | GGA | GAG | TGG | GGG | ACT | GTG | TGT | CAT | GAC | AGA | TGG | AGC | ACA | AGG | AAT | GCA | GCT | GTT | GTG | 1566 |

Fig. 26C

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| C   | K   | Q   | L   | G   | C   | G   | K   | P   | M   | H   | V   | F   | G   | M   | T   | Y   | F   | K   | E   | 533  |
| TGT | AAA | CAA | TTG | GGA | TGT | GGA | AAG | CCT | ATG | CAT | GTG | TTT | GGT | ATG | ACC | TAT | TTT | AAA | GAA | 1626 |
| A   | S   | G   | P   | I   | W   | L   | D   | D   | V   | S   | C   | I   | G   | N   | E   | S   | N   | I   | W   | 553  |
| GCA | TCA | GGA | CCT | ATT | TGG | CTG | GAT | GAC | GTT | TCT | TGC | ATT | GGA | AAT | GAG | TCA | AAT | ATC | TGG | 1686 |
| D   | C   | E   | H   | S   | G   | W   | G   | K   | H   | N   | C   | V   | H   | R   | E   | D   | V   | I   | V   | 573  |
| GAC | TGT | GAA | CAC | AGT | GGA | TGG | GGA | AAG | CAT | AAT | TGT | GTA | CAC | AGA | GAG | GAT | GTG | ATT | GTA | 1746 |
| T   | C   | S   | G   | D   | A   | T   | W   | G   | L   | R   | L   | V   | G   | G   | S   | N   | R   | C   | S   | 593  |
| ACC | TGC | TCA | GGT | GAT | GCA | ACA | TGG | GGC | CTG | AGG | CTG | GTG | GGC | GGC | AGC | AAC | CGC | TGC | TCG | 1806 |
| G   | R   | L   | E   | V   | Y   | F   | Q   | G   | R   | W   | G   | T   | V   | C   | D   | D   | G   | W   | N   | 613  |
| GGA | AGA | CTG | GAG | GTG | TAC | TTT | CAA | GGA | CGG | TGG | GGC | ACA | GTG | TGT | GAT | GAC | GGC | TGG | AAC | 1866 |
| S   | K   | A   | A   | A   | V   | V   | C   | S   | Q   | L   | D   | C   | P   | S   | S   | I   | I   | G   | M   | 633  |
| AGT | AAA | GCT | GCA | GCT | GTG | GTG | TGT | AGC | CAG | CTG | GAC | TGC | CCA | TCT | TCT | ATC | ATT | GGC | ATG | 1926 |
| G   | L   | G   | N   | A   | S   | T   | G   | Y   | G   | K   | I   | W   | L   | D   | D   | V   | S   | C   | D   | 653  |
| GGT | CTG | GGA | AAC | GCT | TCT | ACA | GGA | TAT | GGA | AAA | ATT | TGG | CTC | GAT | GAT | GTT | TCC | TGT | GAT | 1986 |
| G   | D   | E   | S   | D   | L   | W   | S   | C   | R   | N   | S   | G   | W   | G   | N   | N   | D   | C   | S   | 673  |
| GGA | GAT | GAG | TCA | GAT | CTC | TGG | TCA | TGC | AGG | AAC | AGT | GGG | TGG | GGA | AAT | AAT | GAC | TGC | AGT | 2046 |
| H   | S   | E   | D   | V   | G   | V   | I   | C   | S   | D   | A   | S   | D   | M   | E   | L   | R   | L   | V   | 693  |
| CAC | AGT | GAA | GAT | GTT | GGA | GTG | ATC | TGT | TCT | GAT | GCA | TCG | GAT | ATG | GAG | CTG | AGG | CTT | GTG | 2106 |

**Fig. 26D**

# GenBank

G G S S R C A G K V E V N V Q G A V G I 713  
 GGT GGA AGC AGC AGG TGT GCT GGA AAA GTT GAG GTG AAT GTC CAG GGT GCC GTG GGA ATT 2166  
  
 L C A N G G M N I A E V V C R Q L E C 733  
 CTG TGT GCT AAT GGC TGG GGA ATG AAC ATT GCT GAA GTT GTT TGC AGG CAA CTT GAA TGT 2226  
  
 G S A I R R V S R E P H F T E R T L H I L 753  
 GGG TCT GCA ATC AGG GTC TCC AGA GAG CCT CAT TTC ACA GAA AGA ACA TTA CAC ATC TTA 2286  
  
 M S N S G G C T G G E A S L W D C I R W E 773  
 ATG TCG AAT TCT GGC TGC ACT GGA GGG GAA GCC TCT CTC TGG GAT TGT ATA CGA TGG GAG 2346  
  
 W K Q T A C H L N M E A S L I C S A H R 793  
 TGG AAA CAG ACT GCG TGT CAT TTA AAT ATG GAA GCA AGT TTG ATC TGC TCA GCC CAC AGG 2406  
  
 Q P R L V G A D M P C S G R V E V K H A 813  
 CAG CCC AGG CTG GTT GGA GCT GAT ATG CCC TGC TCT GGA CGT GTT GAA GTG AAA CAT GCA 2466  
  
 D T W R S V C D S D F S L H A A N V L C 833  
 GAC ACA TGG CGC TCT GTC TGT GAT TCT TCT TCT TCT TCT GCT GCT GCC AAT GTG CTG TGC 2526  
  
 R E L N C G D A I S L S V G D H F G K G 853  
 AGA GAA TTA AAT TGT GGA GAT GCC ATA TCT CTT TCT TCT GGA GAT CAC TTT GGA AAA GGG 2586  
  
 N G L T W A E K F Q C E G S E T H L A L 873  
 AAT GGT CTA ACT TGG GCC GAA AAG TTC CAG TGT GAA GGG AGT GAA ACT CAC CTT GCA TTA 2646

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Fig. 26E

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| C   | P   | I   | V   | Q   | H   | P   | E   | D   | T   | C   | I   | H   | S   | R   | E   | V   | G   | V   | V   | 893  |
| TGC | CCC | ATT | GTT | CAA | CAT | CCG | GAA | GAC | ACT | TGT | ATC | CAC | AGC | AGA | GAA | GTT | GGA | GTT | GTC | 2706 |
| C   | S   | R   | Y   | T   | D   | V   | R   | L   | V   | N   | G   | K   | S   | Q   | C   | D   | G   | Q   | V   | 913  |
| TGT | TCC | CGA | TAT | ACA | GAT | GTC | CGA | CTT | GTG | AAT | GGC | AAA | TCC | CAG | TGT | GAC | GGG | CAA | GTG | 2766 |
| E   | I   | N   | V   | L   | G   | H   | W   | G   | S   | L   | C   | D   | T   | H   | W   | D   | P   | E   | D   | 933  |
| GAG | ATC | AAC | GTG | CTT | GGA | CAC | TGG | GGC | TCA | CTG | TGT | GAC | ACC | CAC | TGG | GAC | CCA | GAA | GAT | 2826 |
| A   | R   | V   | L   | C   | R   | Q   | L   | S   | C   | G   | T   | A   | L   | S   | T   | T   | G   | G   | K   | 953  |
| GCC | CGT | GTT | CTA | TGC | AGA | CAG | CTC | AGC | TGT | GGG | ACT | GCT | CTC | TCA | ACC | ACA | GGA | GGA | AAA | 2886 |
| Y   | I   | G   | E   | R   | S   | V   | R   | V   | W   | G   | H   | R   | F   | H   | C   | L   | G   | N   | E   | 973  |
| TAT | ATT | GGA | GAA | AGA | AGT | GTT | CGT | GTG | TGG | GGA | CAC | AGG | TTT | CAT | TGC | TTA | GGG | AAT | GAG | 2946 |
| S   | L   | L   | D   | N   | C   | Q   | M   | T   | V   | L   | G   | A   | P   | P   | C   | I   | H   | G   | N   | 993  |
| TCA | CTT | CTG | GAT | AAC | TGT | CAA | ATG | ACA | GTT | CTT | GGA | GCA | CCT | CCC | TGT | ATC | CAT | GGA | AAT | 3006 |
| T   | V   | S   | V   | I   | C   | T   | G   | S   | L   | T   | Q   | P   | L   | F   | P   | C   | L   | A   | N   | 1013 |
| ACT | GTC | TCT | GTG | ATC | TGC | ACA | GGA | AGC | CTG | ACC | CAG | CCA | CTG | TTT | CCA | TGC | CTC | GCA | AAT | 3066 |
| V   | S   | D   | P   | Y   | L   | S   | A   | V   | P   | E   | G   | S   | A   | L   | I   | C   | L   | E   | D   | 1033 |
| GTA | TCT | GAC | CCA | TAT | TTG | TCT | GCA | GTT | CCA | GAG | GGC | AGT | GCT | TTG | ATC | TGC | TTA | GAG | GAC | 3126 |
| K   | R   | L   | R   | L   | V   | D   | G   | D   | S   | R   | C   | A   | G   | R   | V   | E   | I   | Y   | H   | 1053 |
| AAA | CGG | CTC | CGC | CTA | GTG | GAT | GGG | GAC | AGC | CGC | TGT | GCC | GGG | AGA | GTA | GAG | ATC | TAT | CAC | 3186 |

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Fig. 26F

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| D   | G   | F   | W   | G   | T   | I   | C   | D   | D   | G   | W   | D   | L   | S   | D   | A   | H   | V   | V   | 1073 |
| GAC | GGC | TTC | TGG | GGC | ACC | ATC | TGT | GAT | GAC | GGC | TGG | GAC | CTG | AGC | GAT | GCC | CAC | GTG | GTG | 3246 |
| C   | Q   | K   | L   | G   | C   | G   | V   | A   | F   | N   | A   | T   | V   | S   | A   | H   | F   | G   | E   | 1093 |
| TGT | CAA | AAG | CTG | GGC | TGT | GGA | GTG | GCC | TTC | AAT | GCC | ACG | GTC | TCT | GCT | CAC | TTT | GGG | GAG | 3306 |
| G   | S   | G   | P   | I   | W   | L   | D   | D   | L   | N   | C   | T   | G   | T   | E   | S   | H   | L   | W   | 1113 |
| GGG | TCA | GGG | CCC | ATC | TGG | CTG | GAT | GAC | CTG | AAC | TGC | ACA | GGA | ACG | GAG | TCC | CAC | TTG | TGG | 3366 |
| Q   | C   | P   | S   | R   | G   | W   | G   | Q   | H   | D   | C   | R   | H   | K   | E   | D   | A   | G   | V   | 1133 |
| CAG | TGC | CCT | TCC | CGC | GGC | TGG | GGG | CAG | CAC | GAC | TGC | AGG | CAC | AAG | GAG | GAC | GCA | GGG | GTC | 3426 |
| I   | C   | S   | E   | F   | T   | A   | L   | R   | L   | Y   | S   | E   | T   | E   | T   | E   | S   | C   | A   | 1153 |
| ATC | TGC | TCA | GAA | TTC | ACA | GCC | TTG | AGG | CTC | TAC | AGT | GAA | ACT | GAA | ACA | GAG | AGC | TGT | GCT | 3486 |
| G   | R   | L   | E   | V   | F   | Y   | N   | G   | T   | W   | G   | S   | V   | G   | R   | R   | N   | I   | T   | 1173 |
| GGG | AGA | TTG | GAA | GTC | TTC | TAT | AAC | GGG | ACC | TGG | GGC | AGC | GTC | GGC | AGG | AGG | AAC | ATC | ACC | 3546 |
| T   | A   | I   | A   | G   | I   | V   | C   | R   | Q   | L   | G   | C   | G   | E   | N   | G   | V   | V   | S   | 1193 |
| ACA | GCC | ATA | GCA | GGC | ATT | GTG | TGC | AGG | CAG | CTG | GGC | TGT | GGG | GAG | AAT | GGA | GTT | GTC | AGC | 3606 |
| L   | A   | P   | L   | S   | K   | T   | G   | S   | G   | F   | M   | W   | V   | D   | I   | Q   | C   | C   | P   | 1213 |
| CTC | GCC | CCT | TTA | TCT | AAG | ACA | GGC | TCT | GGT | TTC | ATG | TGG | GTG | GAT | GAC | ATT | CAG | TGT | CCT | 3666 |
| K   | T   | H   | I   | S   | I   | W   | Q   | C   | L   | S   | A   | P   | W   | E   | R   | R   | I   | S   | S   | 1233 |
| AAA | ACG | CAT | ATC | TCC | ATA | TGG | CAG | TGC | CTG | TCT | GCC | CCA | TGG | GAG | CGA | AGA | ATC | TCC | AGC | 3726 |

Fig. 26G

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| P   | A   | E   | E   | T   | W   | I   | T   | C   | E   | D   | R   | I   | R   | V   | R   | G   | G   | D   | T   | 1253 |
| CCA | GCA | GAA | GAG | ACC | TGG | ATC | ACA | TGT | GAA | GAT | AGA | ATA | AGA | GTG | CGT | GGA | GGA | GAC | ACC | 3786 |
| E   | C   | S   | G   | R   | V   | E   | I   | W   | H   | A   | G   | S   | W   | G   | T   | V   | C   | D   | D   | 1273 |
| GAG | TGC | TCT | GGG | AGA | GTG | GAG | ATC | TGG | CAC | GCA | GGC | TCC | TGG | GGC | ACA | GTG | TGT | GAT | GAC | 3846 |
| S   | W   | D   | L   | A   | E   | A   | E   | V   | V   | C   | Q   | Q   | L   | G   | C   | G   | S   | A   | L   | 1293 |
| TCC | TGG | GAC | CTG | GCC | GAG | GCG | GAA | GTG | GTG | TGT | CAG | CAG | CTG | GGC | TGT | GGC | TCT | GCT | CTG | 3906 |
| A   | A   | L   | R   | D   | A   | S   | F   | G   | Q   | G   | T   | G   | T   | I   | W   | L   | D   | D   | M   | 1313 |
| GCT | GCC | CTG | AGG | GAC | GCT | TCG | TTT | GGC | CAG | GGA | ACT | GGA | ACC | ATC | TGG | TTG | GAT | GAC | ATG | 3966 |
| R   | C   | K   | G   | N   | E   | S   | F   | L   | W   | D   | C   | H   | A   | K   | P   | W   | G   | Q   | S   | 1333 |
| CGG | TGC | AAA | GGA | AAT | GAG | TCA | TTT | CTA | TGG | GAC | TGT | CAC | GCC | AAA | CCC | TGG | GGA | CAG | AGT | 4026 |
| D   | C   | G   | H   | K   | E   | D   | A   | G   | V   | R   | C   | S   | G   | Q   | S   | L   | K   | S   | L   | 1353 |
| GAC | TGT | GGA | CAC | AAG | GAA | GAT | GCT | GGC | GTG | AGG | TGC | TCT | GGA | CAG | TCG | CTG | AAA | TCA | CTG | 4086 |
| N   | A   | S   | S   | G   | H   | L   | A   | L   | I   | L   | S   | S   | I   | F   | G   | L   | L   | L   | L   | 1373 |
| AAT | GCC | TCC | TCA | GGT | CAT | TTA | GCA | CTT | ATT | TTA | TCC | AGT | ATC | TTT | GGG | CTC | CTT | CTC | CTG | 4146 |
| V   | L   | F   | I   | L   | F   | L   | T   | W   | C   | R   | V   | Q   | K   | Q   | K   | H   | L   | P   | L   | 1393 |
| GTT | CTG | TTT | ATT | CTA | TTT | CTC | ACG | TGG | TGC | CGA | GTT | CAG | AAA | CAA | AAA | CAT | CTG | CCC | CTC | 4206 |
| R   | V   | S   | T   | R   | R   | R   | G   | S   | L   | E   | E   | N   | L   | F   | H   | E   | M   | E   | T   | 1413 |
| AGA | GTT | TCA | ACC | AGA | AGG | AGG | GGT | TCT | CTC | GAG | GAG | AAT | TTA | TTC | CAT | GAG | ATG | GAG | ACC | 4266 |

Fig. 26H



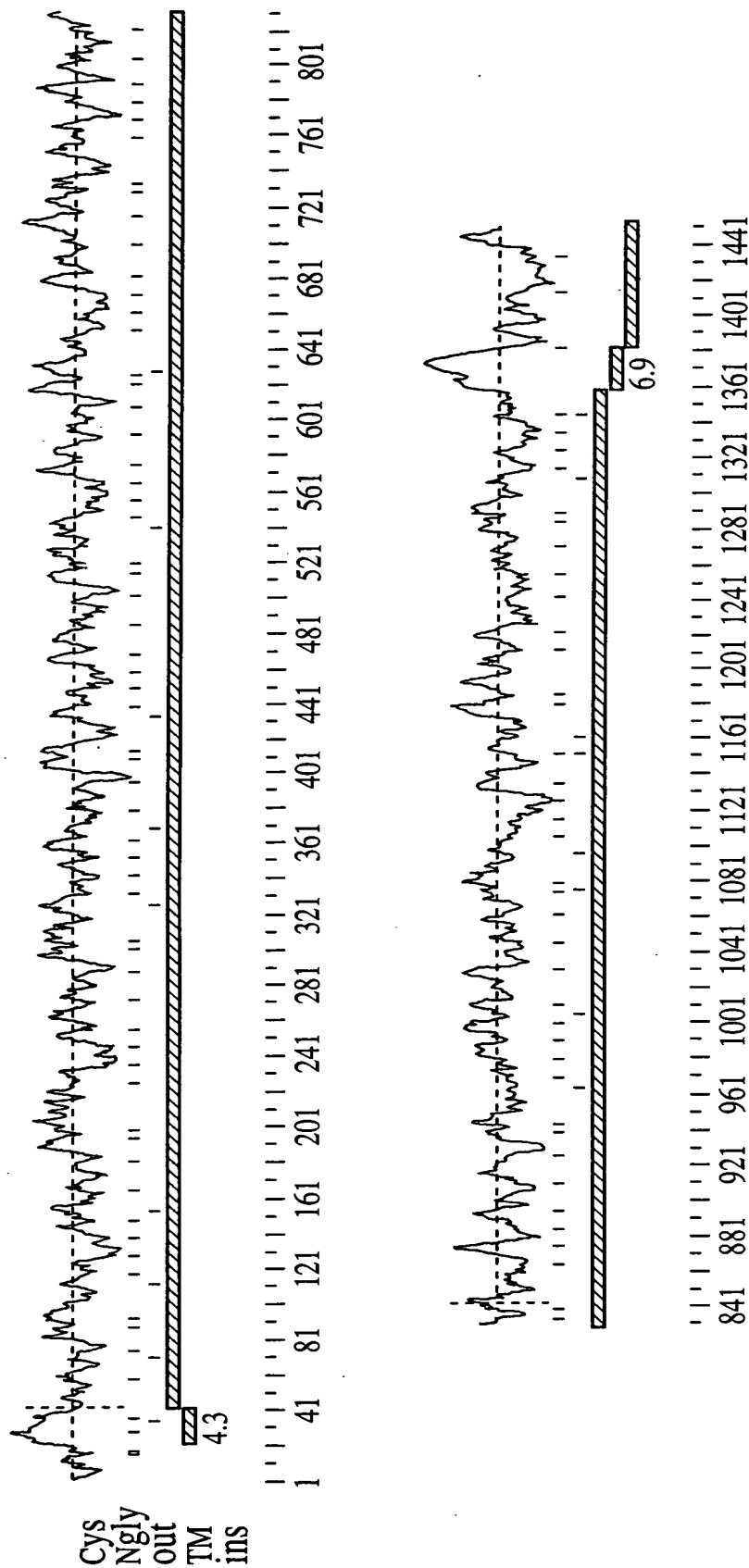


Fig. 26J



Figure 26K

|      |   |     |     |     |     |     |     |     |
|------|---|-----|-----|-----|-----|-----|-----|-----|
| Hum. | MMLPQNSWHIDFGRCCHQNLFSAVVTCILLNSCFLISSFNNGTDLELRLVNGDGPCSGTVEVKFQGWG    | 10  | 20  | 30  | 40  | 50  | 60  | 70  |
| WC1  | MAL-----GR---HLSLRGL---CVLLLT--MVG---GQALELRLKDGVHRCEGRVEVKHQGEWG       | 10  | 20  | 30  | 40  | 50  |     |     |
| Hum. | TVCDDGWNNTASTVVCKQLGCPFSFAMFRFGQAVTR-HGKIWLDDVSCYGNESALWECQH---REWGSHN  | 80  | 90  | 100 | 110 | 120 | 130 |     |
| WC1  | TVDGYRWTLKDASVVCRLGCGAAIG-FPGGAYFGPLGPIWLLYTSCEGTSTVSDCEHSNIKDYRNDG     | 60  | 70  | 80  | 90  | 100 | 110 |     |
| Hum. | CYHGEDVGVNCYGEANLGLRLVDGNNSCGRVEVKFQERWGTICDDGWNLTAAVVCRLGCPSSFISG      | 140 | 150 | 160 | 170 | 180 | 190 | 200 |
| WC1  | YNHGRDAGVVCSG----FVRLAGDGPCSGRVEVHSGEAWIPVSDGNFTLATAQIICAELGCGKAVSVLG   | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| Hum. | VVNSPAVLRPIWLDDILCQGNELALWNCRHRGWGNHDCSHNEDVTILTCYDSSDLELRLVGGTNRCMGRVE | 210 | 220 | 230 | 240 | 250 | 260 | 270 |
| WC1  | HELFPRESSAQVWAEERCEGEPELWVCPVPCGGTCHHSQAQVVC SAYSEVRL-MTNGSSQCEGQVE     | 190 | 200 | 210 | 220 | 230 | 240 | 250 |

Fig. 26K

```
Hum. LKIQGRWGTVCHHKWNNAADVVCKQLGCGTALHFAGLPHLQSGSDVVWL DGVSCS GNE SFLWDCRHS GT
    .. : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
WC1 MNISGWQRALCASHWSLANANVICRQLGCGVAISTPGGPHLVEEGDQILTARFHCSGAESFLWSCPV TAL
    260      270      280      290      300      310      320      330      340

Hum. VNFDC LHQN DVSVIC SDGADLELR LADGSNNCSGRVEVR IHEQWW TICDNWK NEQA LVCKQLGC PFVS
    350      360      370      380      390      400      410

WC1 GGPD CSHGN TASVICS -GNQI----- QVL PQCN D----- SV
    330      340      350

Hum. FGSRRA KPSNEARDIWINS ICTG NESALWDCTYDGKAKRTC FRRS DAGVICSDKADLDRLVG AHS PCY
    420      430      440      450      460      470      480

WC1 -----SQPTGSA-----ASEDSA---PY-----CDSRQL--RLVDGGGP CA
    360      370      380

Hum. GRLEV KYQG EWGTV CHDR WSTRNAAAVVCKQLGCGKPMHVFGMTYFKEAS GPIWLDDV SCIGNESNI WDCE
    490      500      510      520      530      540      550

WC1 GRVEILDQGSWG TICDDGWDLDDARVVC RQLGCGEAL NATGSAHFGAGSGPIWLDNLNCTG KESHVWRCP
    390      400      410      420      430      440      450
```

**Fig. 26L**

|      |                     |                      |                  |                |            |               |          |
|------|---------------------|----------------------|------------------|----------------|------------|---------------|----------|
|      | 560                 | 570                  | 580              | 590            | 600        | 610           | 620      |
| Hum. | HSWGKHNCHVREDVIVTC  | SGDATWGLRLVGGSNRCSGR | LEVYFQGRWGTVCDDG | WNSKAAAVCSQLDC |            |               |          |
|      | .....               | .....                | .....            | .....          | .....      | .....         | .....    |
| WC1  | SRGWQHNCRHKQDAGVICS | --EFLALRMVSEDQQCAGW  | LEVFN            | GTWGSVC        | RNPMEDITV  | STICRQLGC     |          |
|      | 460                 | 470                  | 480              | 490            | 500        | 510           | 520      |
|      |                     |                      |                  |                |            |               |          |
|      | 630                 | 640                  | 650              | 660            | 670        | 680           | 690      |
| Hum. | PSSIIGMGLNASTGYGKI  | WLDDVSCDGEDSLWSCRNS  | GWGNDCSHSE       | DVGVICSDASD    | MELRLVGG   |               |          |
|      | ..                  | ..                   | ..               | ..             | ..         | ..            | ..       |
| WC1  | GDSGTLNSSVALREGFRPQ | WVDRIQCRKTD          | TSLWQCPSDPW      | NYNSCSPKEE     | YIWCADSR   | --QIRLVDGG    |          |
|      | 530                 | 540                  | 550              | 560            | 570        | 580           | 590      |
|      |                     |                      |                  |                |            |               |          |
|      | 700                 | 710                  | 720              | 730            | 740        | 750           | 760      |
| Hum. | SRCAGKVEVNVQGA      | VILCANGWGMNIAEV      | VCRQLECGSAIR     | VSREPHF        | TERTLHILMS | NSGCTGGEASL   |          |
|      | .....               | .....                | .....            | .....          | .....      | .....         | .....    |
| WC1  | GRCGRVEILDQGS       | WGTICDDRWDLD         | DARVVC           | QLGCGEAL       | DATVSSFFGT | GSGPIWLDEVNCR | GEESQV   |
|      | 600                 | 610                  | 620              | 630            | 640        | 650           | 660      |
|      |                     |                      |                  |                |            |               |          |
|      | 770                 | 780                  | 790              | 800            | 810        | 820           | 830      |
| Hum. | WDCIRWEWKQTACH      | LNMEASLICS           | AHRQPR           | LVGADMP        | PCSGR      | VEVKHAD       | TWRSVCD  |
|      | :                   | :                    | :                | :              | :          | :             | :        |
| WC1  | WRCP                | SWGWRQHNCNHQ         | EDAGVICS         | GF--VRLAGD     | GPCSGR     | VEVHSGEA      | WTPVSDGN |
|      | 670                 | 680                  | 690              | 700            | 710        | 720           | 730      |
|      |                     |                      |                  |                |            |               |          |

Fig. 26M

|      |  |  |                |                          |         |         |
|------|--|--|----------------|--------------------------|---------|---------|
| 840  | 850  | 860                                    | 870            | 880                      | 890     | 900     |
| Hum. | NCGDAISLSVGDHFGKGNGLTWA  | KFQCEGSETHALCPIVQHPEDTCIHSRE           | VGVC           | RYTDVRLV-NG              |         |         |
|      | :: ::::  | :: ::::                                | :: ::::        | :: ::::                  | :: :::: | :: :::: |
| WC1  | GCGKAVSVLGHMPFRES  | DQVWAEFRCDGGEPELWSCPRVPCGGTCLHSGAAQVVC | SVYTEVQLMKNG   |                          |         |         |
|      | 740  | 750                                    | 760            | 770                      | 780     | 790     |
|      |  |  |                |                          |         | 800     |
| 910  | 920  | 930                                    | 940            | 950                      | 960     | 970     |
| Hum. | KSQCDGQVEINVLGHWSL   | CDTHWDPEDARVLCRQLSCGTALSTTGK           | YIGERSVRVWGH   | RHFC                     | CLGNESL |         |
|      | :: ::::  | :: ::::                                | :: ::::        | :: ::::                  | :: :::: | :: :::: |
| WC1  | TSQCEGQVEMKISGRWRALCASHWSLANANVVC                                      | RQLGCGVAISTPRGPHLVEGGDQISTAQFHCSGAESF  |                |                          |         |         |
|      | 810  | 820                                    | 830            | 840                      | 850     | 860     |
|      |  |  |                |                          |         | 870     |
| 980  | 990  | 1000                                   | 1010           | 1020                     | 1030    | 1040    |
| Hum. | LDNCQMTVLGAPPCIHGNTVSVICTGSLTQPLFPCLANVSDPYLSAVPEGSALICLEDKRLRLVDGDSRC |  |                |                          |         |         |
|      | :: ::::  | :: ::::                                | :: ::::        | :: ::::                  | :: :::: | :: :::: |
| WC1  | LWSCPVTALGGPDCSHGNTASVICSGNHTQVLPQCNDFLSQPAGSAAEES                     | SPYCSDSRQLRLVDGGGPC                    |                |                          |         |         |
|      | 880  | 890                                    | 900            | 910                      | 920     | 930     |
|      |  |  |                |                          |         | 940     |
| 1050 | 1060   | 1070                                   | 1080           | 1090                     | 1100    | 1110    |
| Hum. | AGRVEIYHDFWGTICDDGWDLSDAHVVQC  | KLGC                                   | GVAFNATVSAHFGE | SGPIWLDDLNCTGTESHLWQC    |         |         |
|      | :: ::::  | :: ::::                                | :: ::::        | :: ::::                  | :: :::: | :: :::: |
| WC1  | GGRVEILDQGSWGTICDDDDWLDDARVVC  | RQLGCC                                 | EALNATGSAHF    | GAGSGPIWLDDLNCTGKESHVWRC |         |         |
|      | 950  | 960                                    | 970            | 980                      | 990     | 1000    |
|      |  |  |                |                          |         | 1010    |

Fig. 26N

**Fig. 260**

**Fig. 26P**

|      |  |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |        |
|------|--|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------|
| Hum. | ATGATGCTGCCCTCAAAACTCGTGGCATATTGATTTTGGAAGATGCTGCTGCATCAGAACCTTTTCTCTG | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 230 | 240 | 250 | 260 | 270 | 280 | 290 | 300 | 310 | 320 | 330 | 340 | 350 | 360 | 370 | 380 | 390 | 400 | 410 | 420 | 430 | 440 | 450 | 460 | 470 | 480 | 490 | 500 | 510 | 520 | 530 | 540 | 550 | 560 | 570 | 580 | 590 | 600 | 610 | 620 | 630 | 640 | 650 | 660 | 670 | 680 | 690 | 700 | 710 | 720 | 730 | 740 | 750 | 760 | 770 | 780 | 790 | 800 | 810 | 820 | 830 | 840 | 850 | 860 | 870 | 880 | 890 | 900 | 910 | 920 | 930 | 940 | 950 | 960 | 970 | 980 | 990 | 1000 | 1010 | 1020 | 1030 | 1040 | 1050 | 1060 | 1070 | 1080 | 1090 | 1100 | 1110 | 1120 | 1130 | 1140 | 1150 | 1160 | 1170 | 1180 | 1190 | 1200 | 1210 | 1220 | 1230 | 1240 | 1250 | 1260 | 1270 | 1280 | 1290 | 1300 | 1310 | 1320 | 1330 | 1340 | 1350 | 1360 | 1370 | 1380 | 1390 | 1400 | 1410 | 1420 | 1430 | 1440 | 1450 | 1460 | 1470 | 1480 | 1490 | 1500 | 1510 | 1520 | 1530 | 1540 | 1550 | 1560 | 1570 | 1580 | 1590 | 1600 | 1610 | 1620 | 1630 | 1640 | 1650 | 1660 | 1670 | 1680 | 1690 | 1700 | 1710 | 1720 | 1730 | 1740 | 1750 | 1760 | 1770 | 1780 | 1790 | 1800 | 1810 | 1820 | 1830 | 1840 | 1850 | 1860 | 1870 | 1880 | 1890 | 1900 | 1910 | 1920 | 1930 | 1940 | 1950 | 1960 | 1970 | 1980 | 1990 | 2000 | 2010 | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 | 2090 | 2100 | 2110 | 2120 | 2130 | 2140 | 2150 | 2160 | 2170 | 2180 | 2190 | 2200 | 2210 | 2220 | 2230 | 2240 | 2250 | 2260 | 2270 | 2280 | 2290 | 2300 | 2310 | 2320 | 2330 | 2340 | 2350 | 2360 | 2370 | 2380 | 2390 | 2400 | 2410 | 2420 | 2430 | 2440 | 2450 | 2460 | 2470 | 2480 | 2490 | 2500 | 2510 | 2520 | 2530 | 2540 | 2550 | 2560 | 2570 | 2580 | 2590 | 2600 | 2610 | 2620 | 2630 | 2640 | 2650 | 2660 | 2670 | 2680 | 2690 | 2700 | 2710 | 2720 | 2730 | 2740 | 2750 | 2760 | 2770 | 2780 | 2790 | 2800 | 2810 | 2820 | 2830 | 2840 | 2850 | 2860 | 2870 | 2880 | 2890 | 2900 | 2910 | 2920 | 2930 | 2940 | 2950 | 2960 | 2970 | 2980 | 2990 | 3000 | 3010 | 3020 | 3030 | 3040 | 3050 | 3060 | 3070 | 3080 | 3090 | 3100 | 3110 | 3120 | 3130 | 3140 | 3150 | 3160 | 3170 | 3180 | 3190 | 3200 | 3210 | 3220 | 3230 | 3240 | 3250 | 3260 | 3270 | 3280 | 3290 | 3300 | 3310 | 3320 | 3330 | 3340 | 3350 | 3360 | 3370 | 3380 | 3390 | 3400 | 3410 | 3420 | 3430 | 3440 | 3450 | 3460 | 3470 | 3480 | 3490 | 3500 | 3510 | 3520 | 3530 | 3540 | 3550 | 3560 | 3570 | 3580 | 3590 | 3600 | 3610 | 3620 | 3630 | 3640 | 3650 | 3660 | 3670 | 3680 | 3690 | 3700 | 3710 | 3720 | 3730 | 3740 | 3750 | 3760 | 3770 | 3780 | 3790 | 3800 | 3810 | 3820 | 3830 | 3840 | 3850 | 3860 | 3870 | 3880 | 3890 | 3900 | 3910 | 3920 | 3930 | 3940 | 3950 | 3960 | 3970 | 3980 | 3990 | 4000 | 4010 | 4020 | 4030 | 4040 | 4050 | 4060 | 4070 | 4080 | 4090 | 4100 | 4110 | 4120 | 4130 | 4140 | 4150 | 4160 | 4170 | 4180 | 4190 | 4200 | 4210 | 4220 | 4230 | 4240 | 4250 | 4260 | 4270 | 4280 | 4290 | 4300 | 4310 | 4320 | 4330 | 4340 | 4350 | 4360 | 4370 | 4380 | 4390 | 4400 | 4410 | 4420 | 4430 | 4440 | 4450 | 4460 | 4470 | 4480 | 4490 | 4500 | 4510 | 4520 | 4530 | 4540 | 4550 | 4560 | 4570 | 4580 | 4590 | 4600 | 4610</ |
|------|--|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------|

**Fig. 26Q-1**

**Fig. 26Q-2**



|      |  |     |     |     |     |     |     |
|------|--|-----|-----|-----|-----|-----|-----|
|      | 560  | 570 | 580 | 590 | 600 | 610 | 620 |
| Hum. | ACTTGAATACTGCTGCCGTGGTGTGCAGGCAACTAGGATGTCCATCTTCTTTTATTCTTCTGGAGTTGT    |     |     |     |     |     |     |
|      | ...  | ... | ... | ... | ... | ... | ... |
| WC1  | TCACACTGGCCACTGCC-----CAG-----ATCATCTGT-----GCAGAGTTGGG                  |     |     |     |     |     |     |
|      | 490  | 500 | 510 | 520 |     |     |     |
|      | 630  | 640 | 650 | 660 | 670 | 680 | 690 |
| Hum. | TAATAGCCCTGCTGTATTGCGCCCATTTGGCTGGATGACATTTATGCCAGGGAATGAGTTGGCACT-      |     |     |     |     |     |     |
|      | ...  | ... | ... | ... | ... | ... | ... |
| WC1  | TTGTGGC-----AAGGCTG--TGTCTGT-----CCTGGGACATGAG-----CTCTT                 |     |     |     |     |     |     |
|      | 530  | 540 | 550 | 560 |     |     |     |
|      | 700  | 710 | 720 | 730 | 740 | 750 | 760 |
| Hum. | CTGGAATTGCAGACATCGTGGATGGGAAATCATGACTGCAGTCACAATGAGGATGTCACATTAAC TTGT   |     |     |     |     |     |     |
|      | ...  | ... | ... | ... | ... | ... | ... |
| WC1  | CAGAGAGTCCAGT-GCC-----CAGGTCTG--GGC-----TGAAGAGTTCA-----GG               |     |     |     |     |     |     |
|      | 570  | 580 | 590 | 600 |     |     |     |
|      | 770  | 780 | 790 | 800 | 810 | 820 | 830 |
| Hum. | TATGATAGTAGTGATCTTGAACCTAAGGCTTGTAGGTGGAACCTAACCGCTGTATGGGGAGAGTAGAGCTGA |     |     |     |     |     |     |
|      | ...  | ... | ... | ... | ... | ... | ... |
| WC1  | TGTGAGGGGAGGAGCCTGAGCT-----CT-----GGGTCTGCCC-CAGAGTG-----CCCTG-          |     |     |     |     |     |     |
|      | 610  | 620 | 630 | 640 | 650 |     |     |

Fig. 26Q-3

|      |   |       |       |       |       |       |       |
|------|---|-------|-------|-------|-------|-------|-------|
|      | 840   | 850   | 860   | 870   | 880   | 890   | 900   |
| Hum. | AAATCCAAGGAGGTGGGGACCGTATGCCACCATAAGTGGAAACAATGCTGCAGCTGATGTCGTATGCAA   |       |       |       |       |       |       |
|      | :::   | :::   | :::   | :::   | :::   | :::   | :::   |
| WC1  | -----TCCA-----GGGGCACGTGT--CACCACA-GTGGATC--TGCT-CAGGTTGTTTGTTCAGCAT    |       |       |       |       |       |       |
|      | 660   | 670   | 680   | 690   | 700   | 710   | 720   |
|      | 910   | 920   | 930   | 940   | 950   | 960   | 970   |
| Hum. | GCAGTTGGGATGTGGAACCGCACTTCACCTCGCTGGCTTGCCTCATTTGCAGTCAGGCTCTGATGTTGTA  |       |       |       |       |       |       |
|      | ..  | ..... | ..... | ..... | ..... | ..... | ..... |
| WC1  | ACT-----CAGAAGTCCGGCTCATGACAA-AC-GGCT--CCCTC-TCAG-TGTGAAGGGCAGGTGGAGAT  |       |       |       |       |       |       |
|      | 710   | 720   | 730   | 740   | 750   | 760   | 770   |
|      | 980   | 990   | 1000  | 1010  | 1020  | 1030  | 1040  |
| Hum. | TGGCTTGATGGTGTCTCCTGCTCCGGTAATGAATCTTTCTTTGGACTGCAGACATTCGGGAACCGTCA    |       |       |       |       |       |       |
|      | ....  | ...   | ..... | ..... | ..... | ..... | ..... |
| WC1  | GAACATT-----TCTG-GACAATGGAGAGCGCTCTGTGCCTCCC-CTGGAGTCTGGCCAATGCC---A    |       |       |       |       |       |       |
|      | 770   | 780   | 790   | 800   | 810   | 820   | 830   |
|      | 1050  | 1060  | 1070  | 1080  | 1090  | 1100  | 1110  |
| Hum. | ATTTTGACTGTCTTCATCAAAACGATGTGTCTGTGATCTGCTCAGATGGAGCAGATTTGGAACCTGCGACT |       |       |       |       |       |       |
|      | ::  | ..... | ...   | ...   | ...   | ...   | ...   |
| WC1  | ATGTTATCTGTCGTACAGCTCGGCTGTGGAGTTGCCATCTCCACCCCGGAG-----GACCAC-ACT      |       |       |       |       |       |       |
|      | 830   | 840   | 850   | 860   | 870   | 880   | 890   |

Fig. 26Q-4



|      |   |       |       |       |       |       |       |
|------|---|-------|-------|-------|-------|-------|-------|
|      | 1400  | 1410  | 1420  | 1430  | 1440  | 1450  | 1460  |
| Hum. | CTGGAGTAATTGTTCTGTATAAGGCAGATCTGGACCTAAGGCTTGTCGGGGCTCATAGCCCCCTGTTATGG |       |       |       |       |       |       |
|      | :: ::   | :: :: | :: :: | :: :: | :: :: | :: :: | :: :: |
| WC1  | CTCAGA-----CAG--CAGGCAGCTCCG--CCTGGTG---GACGGGG-GC--GGTCCCTGCGCCGG      |       |       |       |       |       |       |
|      | 1110  | 1120  | 1130  | 1140  | 1150  | 1160  |       |
|      | 1470  | 1480  | 1490  | 1500  | 1510  | 1520  |       |
| Hum. | GAGATTGGAGGTGAATAACCAAGGAGAGTGGGGGACTGTGTGTCATGACAGATGGAGCACAAGG-AATGC  |       |       |       |       |       |       |
|      | :: ::   | :: :: | :: :: | :: :: | :: :: | :: :: | :: :: |
| WC1  | GAGAGTGGAGATCCTTGACCAAGGGCTCCTGCGGCACCATCTGTGATGACGGCTGGGAC-CTGGACGATGC |       |       |       |       |       |       |
|      | 1170  | 1180  | 1190  | 1200  | 1210  | 1220  |       |
|      | 1530  | 1540  | 1550  | 1560  | 1570  | 1580  | 1590  |
| Hum. | A-GCTGTTGTGTAAACAATTGGGATGTGA-AAGCCTATGCATGTGTTGGTATGACCTATTTTAAAG      |       |       |       |       |       |       |
|      | :: ::   | :: :: | :: :: | :: :: | :: :: | :: :: | :: :: |
| WC1  | CCGC-GTGGTGTGCAGGCAGCTGGGCTGTGGAGAAGCCCTCA-ATGCCACGGGGTCTGCTCACTTCGGGG  |       |       |       |       |       |       |
|      | 1230  | 1240  | 1250  | 1260  | 1270  | 1280  | 1290  |
|      | 1600  | 1610  | 1620  | 1630  | 1640  | 1650  | 1660  |
| Hum. | AAGCATCAGGACCTATTGGCTGGATGACGTTTCTTGCAATGGAAATGAGTCAAATATCTGGGACTGTGA   |       |       |       |       |       |       |
|      | :: ::   | :: :: | :: :: | :: :: | :: :: | :: :: | :: :: |
| WC1  | CAGGATCAGGGCCCATCTGGTTGGACAACCTGAAGTGCACAGGAAAGAGTCCCACGTGTGGAGGTGCC    |       |       |       |       |       |       |
|      | 1300  | 1310  | 1320  | 1330  | 1340  | 1350  | 1360  |

Fig. 26Q-6

Figure 26Q-7

```

1670      1680      1690      1700      1710      1720      1730
Hum. ACACAGTGGATGGGAAAGCATAATTGTGTACACAGAGAGGATGTGATTGTAACCTGCTCAGGTGATGCA
. : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
WC1 TTCCCGGGGCTGGGGCAGCACAACTGCAGACACACAAGCAGGACGCGGGGTCACTGCTCAG--AGTTC-
1370      1380      1390      1400      1410      1420      1430

1740      1750      1760      1770      1780      1790      1800
Hum. ACATGGGGCCTGAGGCTGGTGGCGGCGCAGCAACCGCTGCTCGGGAAGACTGGAGGTGTACTTCAAGGAC
. : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
WC1 -CT--GGCCCTCAGGATGGTGAGTGAGGACCAGCAGTGTGCTGGGTGGCTGGAAGTTTCTACAATGGGA
1440      1450      1460      1470      1480      1490      1500

1810      1820      1830      1840      1850      1860      1870
Hum. GGTGGGGCACAGTGTGTGATGACGGCTGGAACAGTAAGCTGCAGCTGTGGTGTAGCCAGCTGGACTG
. : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
WC1 CCTGGGGCAGTGTCTGCCGTAACCCCATGGAAGACATCACTGTGTCCACGATCTGCAGACAGCTTGGCTG
1510      1520      1530      1540      1550      1560      1570

1880      1890      1900      1910      1920      1930      1940
Hum. CCCATCTTCTATCATTTGGCATGGGTCTG-GGAAACGCTTCTA-CAGGATATGGAATAATTGGCTCGATG
. : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
WC1 T--GGGGACAGTGGAAACCCCTCAACTCTTCTGTGCTCTTAGAGAAGGTTTAGGCCACAGTGGGTGGAT-
1580      1590      1600      1610      1620      1630

```

Fig. 26Q-7

```

1950      1960      1970      1980      1990      2000      2010
Hum.  ATGTTTCCGTGATGGAGATGAGTCAGATCTCTGGTCATGCAGGAACAGTGGTG--GGGAAATAATGAC
      ..... : : : : : : : : : : : : : : : : : : : : : : : :
WC1  -AGAAATCCAGTGTCCGAAAACTGACACCTCTCT--CTGGCAGTGTCTTCTGACCCCTTGGAAATTACAAC
1640      1650      1660      1670      1680      1690      1700

2020      2030      2040      2050      2060      2070      2080
Hum.  TGCAGTCACAGTGAAGATGTTGGAGTG-ATCTGTTCTGATG-CATCGGATATGGAGCTGAGGCTGTGTGGG
      : : : : : : : : : : : : : : : : : : : : : : : :
WC1  T-CATGCTCTCCAAAGGAGGAAGCCCTATATCTGGTGTGCAGACAGCAGACA--GATCCGC--CTGGTGGA
1710      1720      1730      1740      1750      1760

2090      2100      2110      2120      2130      2140      2150
Hum.  TGAAGCAGCAGGTGTGCTGGAAAGTTGAGGTGAATGTCCAGGGTCCCGTGGGAATTCGTGTGCTAAT
      : : : : : : : : : : : : : : : : : : : : : : : :
WC1  TGGAGGTGGTCGCTGCTCTGGGAGAGTGGAGATCCTTGACCAGGGCTCCTGGGGCACCATCTGTGATGAC
1770      1780      1790      1800      1810      1820      1830

2160      2170      2180      2190      2200      2210      2220
Hum.  GGCTGGGGAATGAACATTGCTGAAGTTGTTGCAGGCAACTTGAATGTGGGTCTGCAATCAGGGTCTCCA
      : : : : : : : : : : : : : : : : : : : : : : : :
WC1  CGCTGGGACCTGGACGATGCCCGTGTGGTGTGCAAGCAGCTGGGCTGTGGAGAAGC--CCTGGACGCCCA
1840      1850      1860      1870      1880      1890      1900

```

Fig. 26Q-8

|      |   |           |           |           |           |           |
|------|---|-----------|-----------|-----------|-----------|-----------|
|      | 2230  | 2240      | 2250      | 2260      | 2270      | 2280      |
| Hum. | GAGA-GCCTCATTTACAGAA--AGAACATTACACATCTTAATGTCGAATCTGGCTGCACTGGAGGGGA    |           |           |           |           |           |
|      | ..  | : : : :   | ..        | : : : :   | : : : :   | : : : :   |
|      | : : : :   | : : : :   | : : : :   | : : : :   | : : : :   | : : : :   |
| WC1  | CTGTCTCTTCCCTTTCGGACGGGATCAGGGCCCATCTGGCTGGATGAAGTGAAGTGCAGAGAGAGGA     |           |           |           |           |           |
|      | 1910  | 1920      | 1930      | 1940      | 1950      | 1960      |
|      |   |           |           |           |           | 1970      |
|      | 2290  | 2300      | 2310      | 2320      | 2330      | 2340      |
| Hum. | AGCCTCTCTCTGGGATTGTATACGATGGGAGTGGAAACAG-ACTGCGTGTCAATTTAAATATGGAAGCAAG |           |           |           |           |           |
|      | . :   | : : : : : | : : : : : | : : : : : | : : : : : | : : : : : |
|      | : : : : :   | : : : : : | : : : : : | : : : : : | : : : : : | : : : : : |
| WC1  | GTCCCAAGTATGAGGTGCCCTTCCTGGGGATGGCGCAACACAAC-TGCAATCATCAAGAAGATGCAGG    |           |           |           |           |           |
|      | 1980  | 1990      | 2000      | 2010      | 2020      | 2030      |
|      |   |           |           |           |           | 2040      |
|      | 2360  | 2370      | 2380      | 2390      | 2400      | 2410      |
| Hum. | TTTGATCTGCTCAGCCACAGGCAGCCAGGCTGGTTGGAGCTGATATGCCCTGCTCTGGACGTTGAA      |           |           |           |           |           |
|      | . :   | : : : : : | : : : : : | : : : : : | : : : : : | : : : : : |
|      | : : : : :   | : : : : : | : : : : : | : : : : : | : : : : : | : : : : : |
| WC1  | AGTCATCTGCTCAGGATTGTGC-----GTCTGGCTGGAGGAGATGGACCCCTGCTCAGGGCGAGTAGAA   |           |           |           |           |           |
|      | 2050  | 2060      | 2070      | 2080      | 2090      | 2100      |
|      | 2430  | 2440      | 2450      | 2460      | 2470      | 2480      |
| Hum. | GTGAACATGCAGACACATGGCGCTCTGTCTGTGATTCTGATTCTCTCTCTCATGCTGCCAATGT--GCT   |           |           |           |           |           |
|      | : : : :   | : : : :   | : : : :   | : : : :   | : : : :   | : : : :   |
|      | : : : :   | : : : :   | : : : :   | : : : :   | : : : :   | : : : :   |
| WC1  | GTGCATTCTGGAGAAAGCCTGGACCCAGTGTCTGATGGAAACTTCACACTCCCCACTGCCCAGGTCATCT  |           |           |           |           |           |
|      | 2110  | 2120      | 2130      | 2140      | 2150      | 2160      |
|      |   |           |           |           |           | 2170      |

Fig. 26Q-9

```

2500      2510      2520      2530      2540      2550      2560
Hum.  GTGCAGAGAAATAAATTGTGGAGATGCCATATCTTCTGTGGGAGATCACTTTGGAAAAGGG-AATGG
      ::::::::::: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: ::
WC1  GTGCAGAGC--TGGGATGTGGCAAGGCTGTGTCT-GTCCTGGGACACATGCCATTACAGAGATCCGATGG
2180      2190      2200      2210      2220      2230      2240

2570      2580      2590      2600      2610      2620      2630
Hum.  TCTAACTTGGGCCGAAAAGTTCCAGTGTGAAGGAGTGAAACTCACCTTGCAATTATGCCCCCATTTGTTCAA
      .... ::::::::::: ::::::::::: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: ::
WC1  CCAGGTCTGGGCTGAAGAGTTCAGGTGTGATGGGGGGGAGCCCTGAGCTCTGGTCTTGCCTGCCCCCAGAGTGCCC
2250      2260      2270      2280      2290      2300      2310

2640      2650      2660      2670      2680      2690      2700
Hum.  CATCCGGAAGACACTTGTATCCACAGCAGAGAAAGTTGGAGTTGTCTGTCCCGATATACAGATGTCCGAC
      ::::::::::: ::::::::::: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: ::
WC1  TGTCCAGGAGGCACATGTCTCCACAGTGGAGCTGCTCAGGTTGTCTGTTCAGTGTACACAGAAGTCCAGC
2320      2330      2340      2350      2360      2370      2380

2710      2720      2730      2740      2750      2760      2770
Hum.  TTGTGAATGGCAAATCC--CAGTGTGACGGGCAAGTGGAGATCAACGTGCT-TGGACACTGGGGCTCAC
      ::::::::::: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: :: ::
WC1  TTATGAAAAACGGCACCTCTCAATGTGAGGGGCAGGTGGAGAT-GAAGATCTCTGGACGATGGAGAGCGC
2390      2400      2410      2420      2430      2440      2450

```

**Fig. 26Q-10**



**Fig. 26Q-11**

**Fig. 26Q-12**



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**Fig. 26Q-13**

**Fig. 26Q-14**

**Fig. 26Q-15**

TOP-GENE

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3910      3920      3930      3940      3950      3960      3970
Hum.  GGAAC TGAAC CATCTGG TTGATG ACATGCG GTGCA AAGGAA ATGAG TCATTCT ATGGG ACTGTCACG
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
WC1  GGAAATGGGAGCATCTGGCTGGACGAGGTGCAGTGGCGGGCCGGGAGTCCTCCCTGTGGGACTGTGTTG
3640      3650      3660      3670      3680      3690      3700

3980      3990      4000      4010      4020      4030      4040
Hum.  CCAAA CCGTGGG GACAGAGT GACTGTG GACACA AAGGAA GATGCTGGCGTGAGGTGCTCTGG---ACAGTC
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
WC1  CGGAG CCGCTGG GGCAGAGCGACTGCAAGCACGAGGAGGATGCTGGTGTGAGGTGCTCTGGTGTAAAGGAC
3710      3720      3730      3740      3750      3760      3770

4050      4060      4070      4080      4090
Hum.  G-----CTGAAATCACTGAATG--CCT-----CCTCAGGT-CATT---TAGCA-CTTATTTTATCCA
      : . : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
WC1  AACATTGCCCCACGACCACAGCAGGACCGAGACCAACCTCAAATTCCTCCCTGGCATCTTCTCCCTGCCT
3780      3790      3800      3810      3820      3830      3840

```

Fig. 26Q-16

```

4100      4110      4120      4130      4140
Hum.  G-----TATCTT----TGGGCTC-CTTCTC---CTGGTTCT-----GTTTATCTATTCTCA
      :   :   :   :   :   :   :   :   :   :   :   :   :   :   :   :   :
WC1   GGGTTCTCTGCCCTTATCCTGGGGTCGCTTCTCTCCCTGGTCCTCGTCATCCTGGTGACTCAGCTACTCA
3850   3860   3870   3880   3890   3900   3910

4150      4160      4170      4180
Hum.  CGTGGTG--CCGAGTTCAGAAACAAAACATCT-----GCC---CT---CAGAGTT-----
      .:.:.: : : : : : : : : : : : : : : : : : : : : : : : :
WC1   GATGGAGAGCAGAGCGCAGAGCCTTATCCAGCTATGAAGATGCTCTTGCTGAAGCTGTGTATGAGGAGCT
3920   3930   3940   3950   3960   3970   3980

4190      4200      4210      4220
Hum.  -----CAAC-----CAGAAGGAGGG---GTTCT-CTCG----AGGAGAAATTATCCATGA-----
      :... : : : : : : : : : : : : : : : : : : : : : : : :
WC1   CGATTACCTTCTGACACACAGAAGGAAGGTCTGGGCAGCCAGATCAGATGACTGATGTCCCTGATGAAAAAT
3990   4000   4010   4020   4030   4040   4050

```

Fig. 26Q-17

**Fig. 26Q-18**



TCTTCTGAGGAGG

```
4340                               4350
Hum. CTT-----CCTG-----CCTCTGAAGCCACAAAA
      ::      ::      ::      ::      ::      ::
WC1  GTGAACTCAGTGCCCTGGGAACATCCCCAGTGACTTTCTCG
      4270      4280      4290      4300
```

**Fig. 26Q-19**

|   |   |   |   |   |   |   |   |   |   |   |   |   |     |
|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|
| GTCGACCCACGGTCCGGTCTGTGGCTGAGC  | M | A | L | P | A | L | G | L | D | P | W | S | 12  |
| ATG GCC CTC CCA GCC CTG GGC CTG GAC CCC TGG AGC                                     |   |   |   |   |   |   |   |   |   |   |   |   | 67  |
| L L G L F L F Q L L Q L L L P T T A G   |   |   |   |   |   |   |   |   |   |   |   |   | 32  |
| CTC CTG GGC CTT TTC CTC TTC CAA CTG CTT CAG CTG CTG CCG ACG ACG ACC GCG GGG         |   |   |   |   |   |   |   |   |   |   |   |   | 127 |
| G G G Q G P M P R V R Y Y A G D E R A   |   |   |   |   |   |   |   |   |   |   |   |   | 52  |
| GGA GGC GGC CAG GGC CCC ATG CCC AGG GTC AGA TAC TAT GCA GGG GAT GAA CGT AGG GCA     |   |   |   |   |   |   |   |   |   |   |   |   | 187 |
| L S F F H Q K G L Q D F D T L L L S G D   |   |   |   |   |   |   |   |   |   |   |   |   | 72  |
| CTT AGC TTC TTC CAC CAG AAG GGC CTC CAG GAT TTT GAC ACT CTG CTC CTG AGT GGT GAT     |   |   |   |   |   |   |   |   |   |   |   |   | 247 |
| G N T L Y V G A R E A I L A L D I Q D P   |   |   |   |   |   |   |   |   |   |   |   |   | 92  |
| GGA AAT ACT CTC TAC TAC GTG GGG GCT CGA GAA GCC ATT CTG GCC TTG GAT ATC CAG GAT CCA |   |   |   |   |   |   |   |   |   |   |   |   | 307 |
| G V P R L K N M I P W P A S D R K K S E   |   |   |   |   |   |   |   |   |   |   |   |   | 112 |
| GGG GTC CCC AGG CTA AAG AAC ATG ATA CCG TGG CCA GCC AGT GAC AGA AAA AAG AGT GAA     |   |   |   |   |   |   |   |   |   |   |   |   | 367 |
| C A F K K K S N E T Q C F N F I R V L V   |   |   |   |   |   |   |   |   |   |   |   |   | 132 |
| TGT GCC TTT AAG AAG AAG AGC AAT GAG ACA CAG TGT TTC AAC TTC ATC CGT GTC CTG GTT     |   |   |   |   |   |   |   |   |   |   |   |   | 427 |
| S Y N V T H L Y T C G T F A F S P A C T   |   |   |   |   |   |   |   |   |   |   |   |   | 152 |
| TCT TAC AAT GTC ACC CAT CTC TAC ACC TGC GGC ACC TTC GCC TTC AGC CCT GCT TGT ACC     |   |   |   |   |   |   |   |   |   |   |   |   | 487 |
| F I E L Q D S Y L L P I S E D K V M E G   |   |   |   |   |   |   |   |   |   |   |   |   | 172 |
| TTC ATT GAA CTT CAA GAT TCC TAC CTG TTG CCC ATC TCG GAG GAC AAG GTC ATG GAG GGA     |   |   |   |   |   |   |   |   |   |   |   |   | 547 |

Fig. 27A

K G Q S P F D P A H K H T A V L V D G M 192  
 AAA GGC CAA AGC CCC TTT GAC CCC GCT CAC AAG CAT ACG GCT GTC TTG GTG GAT GGG ATG 607  
  
 L Y S G T M N N F L G S E P I L M R T L 212  
 CTC TAT TCT GGT ACT ATG AAC AAC TTC CTG GGC AGT GAG CCC ATC CTG ATG CGC ACA CTG 667  
  
 G S Q P V L K T D N F L R W L H H D A S 232  
 GGA TCC CAG CCT GTC CTC AAG ACC GAC AAC TTC CTC CGC TGG CTG CAT CAT GAC GCC TCC 727  
  
 F V A A I P S T Q V V Y F F E E T A S 252  
 TTT GTG GCA GCC ATC CCT TCG ACC CAG GTC GTC TAC TTC TTC TTC GAG GAG ACA GCC AGC 787  
  
 E F D F F E R L H T S R V A R V C K N D 272  
 GAG TTT GAC TTC TTT GAG AGG CTC CAC ACA TCG CGG GTG GCT AGA GTC TGC AAG AAT GAC 847  
  
 V G G E K L L Q K K W T T F L K A Q L L 292  
 GTG GGC GGC GAA AAG CTG CTG CAG AAG AAG TGG ACC ACC TTC CTG AAG GCC CAG CTG CTC 907  
  
 C T Q P G Q L P F N V I R H A V L L P A 312  
 TGC ACC CAG CCG GGC CAG CTG CCC TTC AAC GTC ATC CGC CAC GCG GTC CTG CTC CCC GCC 967  
  
 D S P T A P H I Y A V F T S Q W Q V G G 332  
 GAT TCT CCC ACA GCT CCC CAC ATC TAC GCA GTC TTC ACC TTC CAG TGG CAG GTT GGC GGC 1027  
  
 T R S S A V C A F S L L D I E R V F K G 352  
 ACC AGG AGC TCT GCG GTT TGT GCC TTC TCT CTC TTG GAC ATT GAA CGT GTC TTT AAG GGC 1087

Fig. 27B

# Sequence alignment

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| K   | Y   | K   | E   | L   | N   | K   | E   | T   | S   | R   | W   | T   | T   | Y   | R   | G   | P   | E   | T   | 372  |
| AAA | TAC | AAA | GAG | TTG | AAC | AAA | GAA | ACT | TCA | CGC | TGG | ACT | ACT | TAT | AGG | GGC | CCT | GAG | ACC | 1147 |
| N   | P   | R   | P   | G   | S   | C   | S   | V   | G   | P   | S   | S   | D   | K   | A   | L   | T   | F   | M   | 392  |
| AAC | CCC | CGG | CCA | GGC | AGT | TGC | TCA | GTG | GGC | CCC | TCC | TCT | GAT | AAG | GCC | CTG | ACC | TTC | ATG | 1207 |
| K   | D   | H   | F   | L   | M   | D   | E   | Q   | V   | V   | G   | T   | P   | L   | L   | V   | K   | S   | G   | 412  |
| AAG | GAC | CAT | TTC | CTG | ATG | GAT | GAG | CAA | GTG | GTG | GGG | ACG | CCC | CTG | CTG | GTG | AAA | TCT | GGC | 1267 |
| V   | E   | Y   | T   | R   | L   | A   | V   | E   | T   | A   | Q   | G   | L   | D   | G   | H   | S   | H   | L   | 432  |
| GTG | GAG | TAT | ACA | CGG | CTT | GCA | GTG | GAG | ACA | GCC | CAG | GGC | CTT | GAT | GGG | CAC | AGC | CAT | CTT | 1327 |
| V   | M   | Y   | L   | G   | T   | T   | T   | G   | S   | L   | H   | K   | A   | V   | V   | S   | G   | D   | S   | 452  |
| GTC | ATG | TAC | CTG | GGA | ACC | ACC | ACA | GGG | TCG | CTC | CAC | AAG | GCT | GTG | GTA | AGT | GGG | GAC | AGC | 1387 |
| S   | A   | H   | L   | V   | E   | E   | I   | Q   | L   | F   | P   | D   | P   | E   | P   | V   | R   | N   | L   | 472  |
| AGT | GCT | CAT | CTG | GTG | GAA | GAG | ATT | CAG | CTG | TTC | CCT | GAC | CCT | GAA | CCT | GTT | CGC | AAC | CTG | 1447 |
| Q   | L   | A   | P   | T   | Q   | G   | A   | V   | F   | V   | G   | F   | S   | G   | G   | V   | W   | R   | V   | 492  |
| CAG | CTG | GCC | CCC | ACC | CAG | GGT | GCA | GTG | TTT | GTA | GGC | TTC | TCA | GGA | GGT | GTC | TGG | AGG | GTG | 1507 |
| P   | R   | A   | N   | C   | S   | V   | Y   | E   | S   | C   | V   | D   | C   | V   | L   | A   | R   | D   | P   | 512  |
| CCC | CGA | GCC | AAC | TGT | AGT | GTC | TAT | GAG | AGC | TGT | GTG | GAC | TGT | GTC | CTT | GCC | CGG | GAC | CCC | 1567 |
| H   | C   | A   | W   | D   | P   | E   | S   | R   | T   | C   | C   | L   | L   | S   | A   | P   | N   | L   | N   | 532  |
| CAC | TGT | GCC | TGG | GAC | CCT | GAG | TCC | CGA | ACC | TGT | TGC | CTC | CTG | TCT | GCC | CCC | AAC | CTG | AAC | 1627 |

**Fig. 27C**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| S   | W   | K   | Q   | D   | M   | E   | R   | G   | N   | P   | E   | W   | A   | C   | A   | S   | G   | P   | M   | 552  |
| TCC | TGG | AAG | CAG | GAC | ATG | GAG | CGG | GGG | AAC | CCA | GAG | TGG | GCA | TGT | GCC | AGT | GGC | CCC | ATG | 1687 |
| S   | R   | S   | L   | R   | P   | Q   | S   | R   | P   | Q   | I   | I   | K   | E   | V   | L   | A   | V   | P   | 572  |
| AGC | AGG | AGC | CTT | CGG | CCT | CAG | AGC | CGC | CCG | CAA | ATC | ATT | AAA | GAA | GTC | CTG | GCT | GTC | CCC | 1747 |
| N   | S   | I   | L   | E   | L   | P   | C   | P   | H   | L   | S   | A   | L   | A   | S   | Y   | Y   | W   | S   | 592  |
| AAC | TCC | ATC | CTG | GAG | CTC | CCC | TGC | CCC | CAC | CTG | TCA | GCC | TTG | GCC | TCT | TAT | TAT | TGG | AGT | 1807 |
| H   | G   | P   | A   | A   | V   | P   | E   | A   | S   | S   | T   | V   | Y   | N   | G   | S   | L   | L   | L   | 612  |
| CAT | GGC | CCA | GCA | GCA | GTC | CCA | GAA | GCC | TCT | TCC | ACT | GTC | TAC | AAT | GGC | TCC | CTC | TTG | CTG | 1867 |
| I   | V   | Q   | D   | G   | V   | G   | G   | L   | Y   | Q   | C   | W   | A   | T   | E   | N   | G   | F   | S   | 632  |
| ATA | GTG | CAG | GAT | GGA | GTT | GGG | GGT | CTC | TAC | CAG | TGC | TGG | GCA | ACT | GAG | AAT | GGC | TTT | TCA | 1927 |
| Y   | P   | V   | I   | S   | Y   | W   | V   | D   | S   | Q   | D   | Q   | T   | L   | A   | L   | D   | P   | E   | 652  |
| TAC | CCT | GTG | ATC | TCC | TAC | TGG | GTG | GAC | AGC | CAG | GAC | CAG | ACC | CTG | GCC | CTG | GAT | CCT | GAA | 1987 |
| L   | A   | G   | I   | P   | R   | E   | H   | V   | K   | V   | P   | L   | T   | R   | V   | S   | G   | G   | A   | 672  |
| CTG | GCA | GGC | ATC | CCC | CGG | GAG | CAT | GTG | AAG | GTC | CCG | TTG | ACC | AGG | GTC | AGT | GGT | GGG | GCC | 2047 |
| A   | L   | A   | A   | Q   | Q   | S   | Y   | W   | P   | H   | F   | V   | T   | V   | T   | V   | L   | F   | A   | 692  |
| GCC | CTG | GCT | GCC | CAG | CAG | TCC | TAC | TGG | CCC | CAC | TTT | GTC | ACT | GTC | ACT | GTC | CTC | TTT | GCC | 2107 |
| L   | V   | L   | S   | G   | A   | L   | I   | I   | L   | V   | A   | S   | P   | L   | R   | A   | L   | R   | A   | 712  |
| TTA | GTG | CTT | TCA | GGA | GCC | CTC | ATC | ATC | CTC | GTG | GCC | TCC | CCA | TTG | AGA | GCA | CTC | CGG | GCT | 2167 |

Fig. 27D

|     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| R   | G   | K   | V   | Q   | G   | C   | E   | T   | L    | R   | P   | G   | E   | K   | A   | P   | L   | S   | R   | 732  |
| CGG | GGC | AAG | GTT | CAG | GGC | TGT | GAG | ACC | CTG  | CGC | CCT | GGG | GAG | AAG | GCC | CCG | TTA | AGC | AGA | 2227 |
|     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |      |
| E   | Q   | H   | L   | Q   | S   | P   | K   | E   | C    | R   | T   | S   | A   | S   | D   | V   | D   | A   | D   | 752  |
| GAG | CAA | CAC | CTC | CAG | TCT | CCC | AAG | GAA | TGC  | AGG | ACC | TCT | GCC | AGT | GAT | GTG | GAC | GCT | GAC | 2287 |
|     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |      |
| N   | N   | C   | L   | G   | T   | E   | V   | A   | *    |     |     |     |     |     |     |     |     |     |     | 762  |
| AAC | AAC | TGC | CTA | GGC | ACT | GAG | GTA | GCT | TAA  |     |     |     |     |     |     |     |     |     |     | 2317 |
|     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |      |
| ACT | CTA | GGC | AC  | AGG | CGG | GTG | CGG | TG  | CAG  | CAC | CTG | GGC | ATG | CTG | GGT | GGG | CGC | CA  | GAC | 2396 |
| TG  | AC  | AG  | CAC | AC  | AA  | AG  | AC  | CTT | CTC  | CC  | CTG | AG  | AG  | AG  | CTT | CTG | CTA | CTG | CAT | 2475 |
| TG  | AT  | GC  | AC  | AG  | CA  | GT  | CTG | CC  | CTAT | TGG | ACT | CC  | CTT | CTA | CC  | AG  | CA  | CA  | TG  | 2554 |
| CC  | AG  | AC  | CTG | CTC | TAC | ACT | GAT | ATT | GA   | AA  | AC  | CTG | G   | AG  | AT  | CC  | T   | T   | CC  | 2633 |
| CAC | AG  | GT  | TT  | CA  | AG  | AT  | CC  | TAA | AA   | AA  | AC  | CTG | CC  | TG  | CC  | AG  | AC  | CC  | TA  | 2712 |
| AT  | AT  | GC  | TA  | AC  | AT  | GC  | CA  | CTC | CTG  | AA  | AG  | CTG | CC  | CTT | GG  | AC  | AC  | CA  | CA  | 2791 |
| TG  | CA  | GG  | AT  | CTG | CTC | CTG | CTT | CC  | CTT  | AC  | CA  | GT  | CG  | TG  | CA  | CTC | CC  | AG  | GA  | 2870 |
| AC  | CT  | TT  | CT  | CTG | CTT | CA  | GT  | TGG | GC   | AG  | ACT | CTG | AT  | CC  | CTT | CG  | CA  | GA  | AT  | 2949 |
| TC  | AC  | CT  | TT  | TAC | CC  | TA  | GT  | AC  | CC   | CTT | CA  | CC  | CTC | CC  | CTT | TT  | GG  | AT  | TC  | 3028 |
| AG  | AG  | ACT | G   | TTT | TAT | TAT | TAT | TAT | TAT  | TAT | TAT | TAT | TAT | TAT | TAT | TAT | TAT | TAT | TAT | 3104 |

Fig. 27E

**Fig. 27F**

|      |   |     |     |     |     |     |     |
|------|---|-----|-----|-----|-----|-----|-----|
| Hum. | 290   | 300 | 310 | 320 | 330 | 340 | 350 |
|      | KKWTTFLKAQLLCTQPGQLPFNVIRHAVLLPADSPTAPHIYAVFTSQWQVGGTRSSAVCAFSLLDIERVF      |     |     |     |     |     |     |
| Mur. | 290   | 300 | 310 | 320 | 330 | 340 | 350 |
|      | KKWTTFLKAQLLCAQPGQLPFNIIRHAVLLPADSPSVSRIYAVFTSQWQVGGTRSSAVCAFSLLDIERVF      |     |     |     |     |     |     |
| Hum. | 360   | 370 | 380 | 390 | 400 | 410 | 420 |
|      | KGKYKELNKETSRWTTYRGPETNPRPGSCSVGPSSDKALTFMKDHFLMDEQVVGTPLLKSGVEYTRLAV       |     |     |     |     |     |     |
| Mur. | 360   | 370 | 380 | 390 | 400 | 410 | 420 |
|      | KGKYKELNKETSRWTTYRGSEVSPRPGSCSMGPSSDKALTFMKDHFLMDEHVVGTPPLLKSGVEYTRLAV      |     |     |     |     |     |     |
| Hum. | 430   | 440 | 450 | 460 | 470 | 480 | 490 |
|      | ETAQGLDGHSHLVMYLGTGTLGSLHKAVVSGDSSAHLVEEIQLFDPPEPVRNLQLAPTQGA VFGFSGGVW     |     |     |     |     |     |     |
| Mur. | 430   | 440 | 450 | 460 | 470 | 480 | 490 |
|      | ESARGLDGSSHVMYLGSTGTGTLGSLHKAVVPGDSSAYLVEEIQLSPDSEPVNRNLQLAPAQGA VFAFGSGGIW |     |     |     |     |     |     |
| Hum. | 500   | 510 | 520 | 530 | 540 | 550 | 560 |
|      | RVPRANC SVYESCVDCVLARDPHCAWD PESRTCCLLSAPNLNSWKQDMERGNPEWACASGPM SRSRLRPQS  |     |     |     |     |     |     |
| Mur. | 500   | 510 | 520 | 530 | 540 | 550 |     |
|      | RVPRANC SVYESCVDCVLARDPHCAWD PESRLCSLLSGST-KPWKQDMERGNPEWVCTRGPMARS PRRQS   |     |     |     |     |     |     |

Fig. 27G



TOP SECRET

|      |   |  |     |     |     |     |     |
|------|---|--|-----|-----|-----|-----|-----|
| Hum. | 570   | 580                                      | 590 | 600 | 610 | 620 | 630 |
|      | RPQIIKEVLAVPNSILELPCPHLSALASYW  | SHGPAAVPEASSTVYNGSLLLLIVQDGVGGLYQCWATENG |     |     |     |     |     |
| Mur. | 560   | 570                                      | 580 | 590 | 600 | 610 | 620 |
|      | PPQLIKEVLTVPNSILELRCPHLSALASYHWSHGRAKISEASATVYNGSLLLLLPQDGVGGLYQCVATENG |  |     |     |     |     |     |
| Hum. | 640   | 650                                      | 660 | 670 | 680 | 690 | 700 |
|      | FSYPVISYWVDSQDQTLALDPELAGIPREHVKVPLTRVSGAALAAQQSYWPHFVTVTLFALVLSGALI    |  |     |     |     |     |     |
| Mur. | 630   | 640                                      | 650 | 660 | 670 | 680 | 690 |
|      | YSPVVSYWVDSQDQPLALDPELAGVPRERVQVPLTRVGGGASMAAQRSYWPHFLIVTVLLAIVLLGVLT   |  |     |     |     |     |     |
| Hum. | 710   | 720                                      | 730 | 740 | 750 | 760 |     |
|      | ILVASPLRALRARGKVQGCETLRPGEKAPLSREQHLQSPKECRTSASDVDADNNCLGTEVA           |  |     |     |     |     |     |
| Mur. | 700   | 710                                      | 720 | 730 | 740 | 750 | 760 |
|      | LLASPLGALRARGKVQCGMLPPREKAPLSRDQHLQPSKDHRTSASDVDADNNHLGAEVA             |  |     |     |     |     |     |

Fig. 27H



**Fig. 27J**

**Fig. 27J**

[illegible]

**Fig. 27K**

**Fig. 27L**

|      |  |      |      |      |      |      |
|------|--|------|------|------|------|------|
| 1090 | 1100   | 1110 | 1120 | 1130 | 1140 | 1150 |
| Hum. | GGGAAATACAAAGAGTTGAACAAAGAAACTTCACGCTGGACTACTTATAGGGCCCTGAGACCAACCCCC                    |      |      |      |      |      |
|      | :: |      |      |      |      |      |
| Mur. | GGGAAGTACAAGGAGCTGAACAAGGAGACCTCCCGCTGGACCACTTACCGGGCTCAGAGGTCAGCCCCGA                   |      |      |      |      |      |
| 1120 | 1130   | 1140 | 1150 | 1160 | 1170 | 1180 |
| 1160 | 1170   | 1180 | 1190 | 1200 | 1210 | 1220 |
| Hum. | GGCCAGGCAGTTGCTCAGTGGGCCCTCCTCTGATAAGGCCCTGACCTTCATGAAGGACCATTTCTTGAT                    |      |      |      |      |      |
|      | :: |      |      |      |      |      |
| Mur. | GGCCAGGCAGTTGCTCCATGGGCCCTCCTCTGACAAAGCCTTGACCTTCATGAAGGACCATTTTCTGAT                    |      |      |      |      |      |
| 1190 | 1200   | 1210 | 1220 | 1230 | 1240 | 1250 |
| 1230 | 1240   | 1250 | 1260 | 1270 | 1280 | 1290 |
| Hum. | GGATGAGCAAGTGGTGGGACGCCCTGCTGGTGAATCTGGCGTGGAGTATACACGGCTTGCAGTGGAG                      |      |      |      |      |      |
|      | :: |      |      |      |      |      |
| Mur. | GGATGAGCACGTGGTAGGAACACCCCTGCTGGTGAAGTCTGGTGTGGAGTACACACGGCTTGCTGTGGAG                   |      |      |      |      |      |
| 1260 | 1270   | 1280 | 1290 | 1300 | 1310 | 1320 |
| 1300 | 1310   | 1320 | 1330 | 1340 | 1350 | 1360 |
| Hum. | ACAGCCCAGGGCCTTGATGGGCACAGCCCATCTTGTCATGTACCTGGGAACCAACACAGGGTCGCTCCACA                  |      |      |      |      |      |
|      | :: |      |      |      |      |      |
| Mur. | TCAGCTCGGGCCTTGATGGGAGCAGCCATGTGGTCAATGTGGTACCTCCACGGGTCCCTGCACACA                       |      |      |      |      |      |
| 1330 | 1340   | 1350 | 1360 | 1370 | 1380 | 1390 |

Fig. 27M

|      |  |                                   |      |      |      |      |      |
|------|--|-----------------------------------|------|------|------|------|------|
| Hum. | 1370   | 1380                              | 1390 | 1400 | 1410 | 1420 | 1430 |
|      | AGGCTGTGGTAAGTGGGGACAGCAGTGCTCATCTGGTGGGAAGAGATT | CAGCTGTTCCCTGACCCCTGAAC           |      |      |      |      |      |
|      | CCCCCCCC : CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC |                                   |      |      |      |      |      |
| Mur. | 1400   | 1410                              | 1420 | 1430 | 1440 | 1450 | 1460 |
|      | AGGCTGTGGTGCCTCAGGACAGCAGTGCTTATCTCGTGGAGGAGATT  | CAGCTGAGCCCTGACTCTGAGCC           |      |      |      |      |      |
| Hum. | 1440   | 1450                              | 1460 | 1470 | 1480 | 1490 | 1500 |
|      | TGTTGCAACCTGCAGCTGGCCCCCACCCAGGTGCAGTGT          | TGTAGGCTTCTCAGGAGTGTCTGGAG        |      |      |      |      |      |
|      | CCCCCCCC : CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC |                                   |      |      |      |      |      |
| Mur. | 1470   | 1480                              | 1490 | 1500 | 1510 | 1520 | 1530 |
|      | TGTTCGAAACCTGCAGCTGGCCCCCGCCCCAGGTGCAGTGT        | TGCAGGCTTCTCTGGAGGCATCTGGAGA      |      |      |      |      |      |
| Hum. | 1510   | 1520                              | 1530 | 1540 | 1550 | 1560 | 1570 |
|      | GTGCCCCGAGCCAACTGTAGTGTCTATGAGAGCTGTGTG          | ACTGTGTCCCTTGCCCCGGACCCCACTGTG    |      |      |      |      |      |
|      | CCCCCCCC : CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC |                                   |      |      |      |      |      |
| Mur. | 1540   | 1550                              | 1560 | 1570 | 1580 | 1590 | 1600 |
|      | GTTCCCAAGGGCCAAATTGCAGTGTCTACGAGAGCTGTGT         | GACTGTGTGCTTGCCAGGGACCCCTCACTGTG  |      |      |      |      |      |
| Hum. | 1580   | 1590                              | 1600 | 1610 | 1620 | 1630 | 1640 |
|      | CCTGGGACCCTGAGTCCCCGAACCTGTTGCCCTCCTGTCT         | GCCCCCAACCTGAACCTCCTGGAAGCAGGACAT |      |      |      |      |      |
|      | CCCCCCCC : CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC |                                   |      |      |      |      |      |
| Mur. | 1610   | 1620                              | 1630 | 1640 | 1650 | 1660 | 1670 |
|      | CCTGGGACCCTGAATCAAGACTCTGCAGCCTTCTGTCT           | GTGGCTC-TACCAAGCCT--TGAAGCAGGACAT |      |      |      |      |      |

**Fig. 27N**

|      |  |      |      |      |      |      |      |
|------|--|------|------|------|------|------|------|
| Hum. | 1650   | 1660 | 1670 | 1680 | 1690 | 1700 | 1710 |
|      | GGAGCGGGGAACCCAGAGTGGGCATGTGCCAGTGGCCCCCATGAGCAGGAGCCTTCGGCCTCAGAGCCGC |      |      |      |      |      |      |
|      | GGAGCGGGGAACCCAGAGTGGGCATGTGCCAGTGGCCCCCATGAGCAGGAGCCTTCGGCCTCAGAGCCGC |      |      |      |      |      |      |
| Mur. | 1680   | 1690 | 1700 | 1710 | 1720 | 1730 | 1740 |
|      | GGAGCGGGGAACCCAGAGTGGGCATGTGCCAGTGGCCCCCATGAGCAGGAGCCTTCGGCCTCAGAGCCGC |      |      |      |      |      |      |
|      | GGAGCGGGGAACCCAGAGTGGGCATGTGCCAGTGGCCCCCATGAGCAGGAGCCTTCGGCCTCAGAGCCGC |      |      |      |      |      |      |
| Hum. | 1720   | 1730 | 1740 | 1750 | 1760 | 1770 | 1780 |
|      | CCGCAATCATTAAGAGTCCCTGGCTGTCCCAACTCCATCCTGGAGCTCCCTGCCCCACCTGTCTAG     |      |      |      |      |      |      |
|      | CCGCAATCATTAAGAGTCCCTGGCTGTCCCAACTCCATCCTGGAGCTCCCTGCCCCACCTGTCTAG     |      |      |      |      |      |      |
| Mur. | 1750   | 1760 | 1770 | 1780 | 1790 | 1800 | 1810 |
|      | CCCTCAACTAATTAAGAGTCCCTGACAGTCCCAACTCCATCCTGGAGCTGGCTGCCCCACCTGTCTAG   |      |      |      |      |      |      |
|      | CCCTCAACTAATTAAGAGTCCCTGACAGTCCCAACTCCATCCTGGAGCTGGCTGCCCCACCTGTCTAG   |      |      |      |      |      |      |
| Hum. | 1790   | 1800 | 1810 | 1820 | 1830 | 1840 | 1850 |
|      | CCTTGGCCTCTTATTATTGGAGTCATGGCCAGCAGCAGTCCCAGAGCCTCTTCCACTGTCTACAATGG   |      |      |      |      |      |      |
|      | CCTTGGCCTCTTATTATTGGAGTCATGGCCAGCAGCAGTCCCAGAGCCTCTTCCACTGTCTACAATGG   |      |      |      |      |      |      |
| Mur. | 1820   | 1830 | 1840 | 1850 | 1860 | 1870 | 1880 |
|      | CACTGGCCTCTTACCAGTGGAGTCATGGCCGAGCCAAATCTCAGAGCCTCTGTACTCCGTCTACAATGG  |      |      |      |      |      |      |
|      | CACTGGCCTCTTACCAGTGGAGTCATGGCCGAGCCAAATCTCAGAGCCTCTGTACTCCGTCTACAATGG  |      |      |      |      |      |      |
| Hum. | 1860   | 1870 | 1880 | 1890 | 1900 | 1910 | 1920 |
|      | CTCCCTCTTGTGATAGTGCAGGATGGAGTTGGGGTCTCTACCAGTGTGGGCAACTGAGAAATGGCTTT   |      |      |      |      |      |      |
|      | CTCCCTCTTGTGATAGTGCAGGATGGAGTTGGGGTCTCTACCAGTGTGGGCAACTGAGAAATGGCTTT   |      |      |      |      |      |      |
| Mur. | 1890   | 1900 | 1910 | 1920 | 1930 | 1940 | 1950 |
|      | CTCCCTCTTGTGCTGCGCAGGATGGTGTCTGGGGCCTCTACCAGTGTGTGGCGACTGAGAACGGCTAC   |      |      |      |      |      |      |
|      | CTCCCTCTTGTGCTGCGCAGGATGGTGTCTGGGGCCTCTACCAGTGTGTGGCGACTGAGAACGGCTAC   |      |      |      |      |      |      |

Fig. 270



|      |   |            |            |            |            |            |            |
|------|---|------------|------------|------------|------------|------------|------------|
|      | 1930  | 1940       | 1950       | 1960       | 1970       | 1980       | 1990       |
| Hum. | TCATACCCCTGTGATCTCCTACTGGGTGGACAGCCAGGACACCCCTGGCCCTGGATCCTGAACCTGGCAG    |            |            |            |            |            |            |
|      | ::::::::::  | :::::::::: | :::::::::: | :::::::::: | :::::::::: | :::::::::: | :::::::::: |
| Mur. | TCATACCCCTGTGGTCTCCTATTGGGTAGACAGCCAGGACCCCTGGCGCTGGACCCCTGAGCTGGCGG      |            |            |            |            |            |            |
|      | 1960  | 1970       | 1980       | 1990       | 2000       | 2010       | 2020       |
|      | 2000  | 2010       | 2020       | 2030       | 2040       | 2050       | 2060       |
| Hum. | GCATCCCCCGGAGCATGTGAAGTCCCGTTGACCAGGGTCAGTGGTGGGCCGCCCTGGCTGCCACGCA       |            |            |            |            |            |            |
|      | ::::  | ::::       | ::::       | ::::       | ::::       | ::::       | ::::       |
| Mur. | GCGTTCCCCCGTGAGCGTGTGCAGGTCCCGCTGACCAGGGTCGGAGGCGGAGCTTCCATGGCTGCCACGCG   |            |            |            |            |            |            |
|      | 2030  | 2040       | 2050       | 2060       | 2070       | 2080       | 2090       |
|      | 2070  | 2080       | 2090       | 2100       | 2110       | 2120       | 2130       |
| Hum. | GTCCCTACTGGCCCCACATTGTCACTGTCACTGTCTCTTTGCCCTTAGTGCTTTCAGGAGCCCTCATCATC   |            |            |            |            |            |            |
|      | ::::::::::  | ::::       | ::::       | ::::       | ::::       | ::::       | ::::       |
| Mur. | GTCCCTACTGGCCCCCATTTTCTCATCGTTACCGTCCCTCCTGGCCATCGTGCTCCTGGGAGTGCTCACTCTC |            |            |            |            |            |            |
|      | 2100  | 2110       | 2120       | 2130       | 2140       | 2150       | 2160       |
|      | 2140  | 2150       | 2160       | 2170       | 2180       | 2190       | 2200       |
| Hum. | CTCGTGGCCTCCCCATTGAGAGCACTCCGGGCTCGGGGCAAGGTTCAAGGCTGTGAGACCCCTGCGCCCTG   |            |            |            |            |            |            |
|      | :::   | :          | :          | :          | :          | :          | :          |
| Mur. | CTCCTCGCTTCCCCACTGGGGCGGCTGCGGGCTCGGGGTAGGTTCAAGGCTGTGGGATGCTGCCCCCA      |            |            |            |            |            |            |
|      | 2170  | 2180       | 2190       | 2200       | 2210       | 2220       | 2230       |

Fig. 27P

**Fig. 27Q**

|      |  |      |      |      |      |      |       |
|------|--|------|------|------|------|------|-------|
|      | 2490   | 2500 | 2510 | 2520 | 2530 | 2540 | 2550  |
| Hum. | ACAGCAGTCTG-CCTCCCTATGGACTCCCCTTCTACCAAGCACATGAGCTCTCTAACAGGGTGGGGGCT            |      |      |      |      |      |       |
|      | :: :::: : :::::::::::::::::::: :::::   |      |      |      |      |      | ::::: |
| Mur. | ACC-CAGTAGGTCTCCCTGTGGGACTCTCTTGTC-AAGCACATT-----GGGCT                           |      |      |      |      |      |       |
|      | 2470   | 2480 | 2490 | 2500 | 2510 |      |       |
|      |  |      |      |      |      |      |       |
|      | 2560   | 2570 | 2580 | 2590 | 2600 | 2610 |       |
| Hum. | ACCCCCAGACCTGCTCTACACTGATA-TTGAAGAACCCTGGAGAGGATCCTTCAGTTCTGGCCAATCCAG           |      |      |      |      |      |       |
|      | . : :::: :::: : . ::::: . :::::::::::::: :::: :::: :::: :::: ::::                |      |      |      |      |      |       |
| Mur. | GTCGCCATACCTGTACTTGTGCTGTGACAGGAAGAGCCAGAC-AGGTTTCTTTGATTTTGATTGACCCCAA          |      |      |      |      |      |       |
|      | 2520   | 2530 | 2540 | 2550 | 2560 | 2570 | 2580  |
|      |  |      |      |      |      |      |       |
|      | 2620   | 2630 | 2640 | 2650 | 2660 | 2670 | 2680  |
| Hum. | GGACCCCT-CCAGAAACACA-GTGTTTCAAGAGATCCTAAAAAACCCTGCCTGTCCCAGGACCCATATGTA          |      |      |      |      |      |       |
|      | : ::::: ::::::::::: : ::::: :::::::::::::: :::: ::::: ::::: ::::: ::::: :::::    |      |      |      |      |      |       |
| Mur. | GAGCCCTGCCTGTAAACAACGTGCTCCAGGAGA-CCATGAAAGGTGTGGCTGTCT-GGGATTCTGTGGTG           |      |      |      |      |      |       |
|      | 2590   | 2600 | 2610 | 2620 | 2630 | 2640 | 2650  |
|      |  |      |      |      |      |      |       |
|      | 2690   | 2700 | 2710 | 2720 | 2730 | 2740 | 2750  |
| Hum. | ATGAACACCAAACATCTAAACAATCATATGCTAA-CATGC---CAC--TCCTGGAACCT-CCACTCTGAA           |      |      |      |      |      |       |
|      | : :::: : ::::::::::: :::::::::: . . ::::: : :::: : ::::: ::::: ::::: ::::: ::::: |      |      |      |      |      |       |
| Mur. | ACAAAC-CTAAGCATCCGAGCAAGCTGGGGCTATTCTCTGCAAACTCCATCCTGAACGCTGTCACTCTAGA          |      |      |      |      |      |       |
|      | 2660   | 2670 | 2680 | 2690 | 2700 | 2710 | 2720  |

**Fig. 27R**

|      |     |  |      |      |      |      |      |      |
|------|-----|--|------|------|------|------|------|------|
| Hum. | --- | GCTGCCGCTTTGGACACCAACACTCCCTTCT-CC                                       | 2760 | 2770 | 2780 | 2790 | 2800 | 2810 |
|      |     | AGCAGCTGCTGCTTTGAACACCAAGCCACCCTCCTTCCCAAGAGTCTCTATGGAGTTGGC-CCCTTGTGT   | 2730 | 2740 | 2750 | 2760 | 2770 | 2780 |
|      |     |  | 2790 |      |      |      |      |      |
| Hum. |     | TTCCCTTACCAGTCGTGCACCGCTGACTCCAGGAAGTCTTTCCTGAAGTCTGACCACTTCTTCTTCTTGC   | 2820 | 2830 | 2840 | 2850 | 2860 | 2870 |
|      |     |  | 2880 |      |      |      |      |      |
| Mur. |     | TTCCCTTACCAGTCGGGCCATACTGTTT--GGGAAGTCATCTCTGAAGTCTAACCACTTCCCTTCTTGG    | 2800 | 2810 | 2820 | 2830 | 2840 | 2850 |
|      |     |  |      |      |      |      |      |      |
| Hum. |     | TTCAGTTGGGCAGACTCTGATCCCT--TCTGCCCTGGCAGAATGGCAGGGGTAATCTGAGCCTTCTTCTTC  | 2890 | 2900 | 2910 | 2920 | 2930 | 2940 |
|      |     |  | 2950 |      |      |      |      |      |
| Mur. |     | TTCAGTTGGACAGATTGTTATTATTGTCTCTGCCCTGGCTAGAAATGGGGGCATAATCTGAGCCTTGTTC   | 2860 | 2870 | 2880 | 2890 | 2900 | 2910 |
|      |     |  | 2920 |      |      |      |      |      |
| Hum. |     | ACTCCCTTTACCC--TAGCTGACCCCTTCACCTCTCCC--CCTCCCCTTTTCCCTTGTTTTGGGATTTCAGA | 2960 | 2970 | 2980 | 2990 | 3000 | 3010 |
|      |     |  |      |      |      |      |      |      |
| Mur. |     | ---CCTTGTCAGTGTGGCTGACCC-TTGACCTCTTCCCTTCCCTCC--TCCCTTGTTTTGGGATTTCAGA   | 2930 | 2940 | 2950 | 2960 | 2970 | 2980 |
|      |     |  | 2990 |      |      |      |      |      |

**Fig. 27S**

**Fig. 27T**

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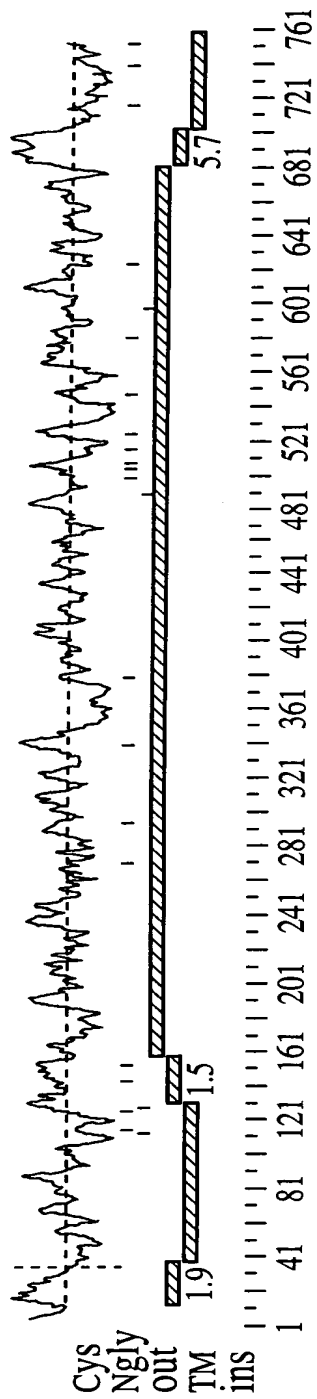


Fig. 27U

|   |     |
|---|-----|
| GTCGACCCACGCGTCCGAGCCTTTGGACACTTCTCTGCTTGAGGACACCTTGACTAACCTCCAAGGCAACTAAAGGA   | 79  |
| TCAAGAAAGGCCCAGCACAGCAGAAGATCAGCTGATCTAGCTCCTGCAGGAG ATG TGT ACA AAG ACA ATC    | 150 |
| M C T K T I   |     |
| P V L W G C F L L W N L Y V S S S Q T I   | 6   |
| CCA GTC CTC TGG GGA TGT TTC CTC CTG TGG AAT CTC TAT GTC TCA TCC TCT CAG ACC ATT | 26  |
| Y P G I K A R I T Q R A L D Y G V Q A G   | 46  |
| TAC CCT GGA ATC AAG GCA AGG ATT ACT CAG AGG GCA CTT GAC TAT GGT GGT CAA GCT GGA | 270 |
| M K M I E Q M L K E K K L P D L S G S E   | 66  |
| ATG AAG ATG ATT GAG CAA ATG CTA AAA GAA AAG AAA CTC CCA GAT TTA AGC GGT TCT GAG | 330 |
| S L E F L K V D Y V N Y N F S N I K I S   | 86  |
| TCT CTT GAA TTT CTA AAA GTT GAT TAT GTA AAC TAC AAT TTT TCA AAT ATA AAA ATC AGT | 390 |
| A F S F P N T S L A F V P G V G I K A L   | 106 |
| GCC TTT TCA TTT CCA AAT ACC TCA TTG GCT TTT GTG CCT GGA GTG GGA ATC AAA GCG CTA | 450 |
| T N H G T A N I S T D W G F E S P L F V   | 126 |
| ACC AAC CAT GGC ACT GCC AAC ATC AGC ACA GAC TGG GGG TTC GAG TCT CCA CTT TTT GTT | 510 |
| L Y N S F A E P M E K P I L K N L N E M   | 146 |
| CTG TAT AAC TCC TTT GCT GAG CCC ATG GAG AAA CCC ATT TTA AAG AAC TTA AAT GAA ATG | 570 |

Fig. 28A

# LOC 100 "DETERMINED"

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| L   | C   | P   | I   | I   | A   | S   | E   | V   | K   | A   | L   | N   | A   | N   | L   | S   | T   | L   | E   | 166  |
| CTC | TGT | CCC | ATT | ATT | GCA | AGT | GAA | GTC | AAA | GCG | CTA | AAT | GCC | AAC | CTC | AGC | ACA | CTG | GAG | 630  |
| V   | L   | T   | K   | I   | D   | N   | Y   | T   | L   | L   | D   | Y   | S   | L   | I   | S   | S   | P   | E   | 186  |
| GTT | TTA | ACC | AAG | ATT | GAC | AAC | TAC | ACT | CTG | CTG | GAT | TAC | TCC | CTA | ATC | AGT | TCT | CCA | GAA | 690  |
| I   | T   | E   | N   | Y   | L   | D   | L   | N   | L   | K   | G   | V   | F   | Y   | P   | L   | E   | N   | L   | 206  |
| ATT | ACT | GAG | AAC | TAC | CTT | GAC | CTG | AAC | TTG | AAG | GGT | GTA | TTT | TAC | CCA | CTG | GAA | AAC | CTC | 750  |
| T   | D   | P   | P   | F   | S   | P   | V   | P   | F   | V   | L   | P   | E   | R   | S   | N   | S   | M   | L   | 226  |
| ACC | GAC | CCC | CCC | TTC | TCA | CCA | GTT | CCT | TTT | GTG | CTC | CCA | GAA | CGC | AGC | AAC | TCC | ATG | CTC | 810  |
| Y   | I   | G   | I   | A   | E   | Y   | F   | F   | K   | S   | A   | S   | F   | A   | H   | F   | T   | A   | G   | 246  |
| TAC | ATT | GGA | ATC | GCC | GAG | TAT | TTC | TTT | AAA | TCT | GCG | TCC | TTT | GCT | CAT | TTC | ACA | GCT | GGG | 870  |
| V   | F   | N   | L   | T   | L   | S   | T   | E   | E   | I   | S   | N   | H   | F   | V   | Q   | N   | S   | Q   | 266  |
| GTT | TTC | AAT | CTC | ACT | CTC | TCC | ACC | GAA | GAG | ATT | TCC | AAC | CAT | TTT | GTT | CAA | AAC | TCT | CAA | 930  |
| G   | L   | G   | N   | V   | L   | S   | R   | I   | A   | E   | I   | Y   | I   | L   | S   | Q   | P   | F   | M   | 286  |
| GGC | CTT | GGC | AAC | GTG | CTC | TCC | CGG | ATT | GCA | GAG | ATC | TAC | ATC | TTG | TCC | CAG | CCC | TTC | ATG | 990  |
| V   | R   | I   | M   | A   | T   | E   | P   | P   | I   | I   | N   | L   | Q   | P   | G   | N   | F   | T   | L   | 306  |
| GTG | AGG | ATC | ATG | GCC | ACA | GAG | CCT | CCC | ATA | ATC | AAT | CTA | CAA | CCA | GGC | AAT | TTC | ACC | CTG | 1050 |
| D   | I   | P   | A   | S   | I   | M   | M   | L   | T   | Q   | P   | K   | N   | S   | T   | V   | E   | T   | I   | 326  |
| GAC | ATC | CCT | GCC | TCC | ATC | ATG | ATG | CTC | ACC | CAA | CCC | AAG | AAC | TCC | ACA | GTT | GAA | ACC | ATC | 1110 |

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Fig. 28B



|  |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|--|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| V  | S    | M   | D   | F   | V   | A   | S   | T   | S   | V   | G   | L   | V   | I   | L   | G   | Q   | R   | L   | 346  |
| GTT  | TCC  | ATG | GAC | TTC | GTT | GCT | AGT | ACC | AGT | GTT | GGC | CTG | GTT | ATT | TTG | GGA | CAA | AGA | CTG | 1170 |
| V  | C    | S   | L   | S   | L   | N   | R   | F   | R   | L   | A   | L   | P   | E   | S   | N   | R   | S   | N   | 366  |
| GTC  | TGC  | TCC | TTG | TCT | CTG | AAC | AGA | TTC | CGC | CTT | GCT | TTG | CCA | GAG | TCC | AAT | CGC | AGC | AAC | 1230 |
| I  | E    | V   | L   | R   | F   | E   | N   | I   | L   | S   | S   | I   | L   | H   | F   | G   | V   | L   | P   | 386  |
| ATT  | GAG  | GTC | TTG | AGG | TTT | GAA | AAT | ATT | CTA | TCG | TCC | ATT | CTT | CAC | TTT | GGA | GTC | CTC | CCA | 1290 |
| L  | A    | N   | A   | K   | L   | Q   | Q   | G   | F   | P   | L   | P   | N   | P   | H   | K   | F   | L   | F   | 406  |
| CTG  | GCC  | AAT | GCA | AAA | TTG | CAG | CAA | GGA | TTT | CCT | CTG | CCC | AAT | CCA | CAC | AAA | TTC | TTA | TTC | 1350 |
| V  | N    | S   | D   | I   | E   | V   | L   | E   | G   | F   | L   | L   | I   | S   | T   | D   | L   | K   | Y   | 426  |
| GTC  | AAT  | TCA | GAT | ATT | GAA | GTT | CTT | GAG | GGT | TTC | CTT | TTG | ATT | TCC | ACC | GAC | CTG | AAG | TAT | 1410 |
| E  | T    | S   | S   | K   | Q   | Q   | P   | S   | F   | H   | V   | W   | E   | G   | L   | N   | L   | I   | S   | 446  |
| GAA  | ACA  | TCC | TCA | AAG | CAG | CAG | CCA | AGT | TTC | CAC | GTA | TGG | GAA | GGT | CTG | AAC | CTG | ATA | AGC | 1470 |
| R  | Q    | W   | R   | G   | K   | S   | A   | P   | *   |     |     |     |     |     |     |     |     |     |     | 456  |
| AGA  | CAG  | TGG | AGG | GGG | AAG | TCA | GCC | CCT | TGA |     |     |     |     |     |     |     |     |     |     | 1500 |
| TTGCCGGTTTGCAATTACCCCCAGGAAGTAAATGGTCCCTTAATCCTACAACACTACTGTAAACCCAGAAAGGAAAGACAGT | 1579 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
| ACACACTGGAATTGTAAAGCCCTTGTGAATTGCTTAGGCAGAAAGTTTCTTTCTTAAGCCTTCAGGAACCCAGAAATAA    | 1658 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
| GGCAGACTCTGTAAAGGGATAAATAGAGGTGTCTGAATGTGAGTGTATGCATGCTGCGTGTGTCTGTTATGTTG         | 1737 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
| TTTGTGTTTGGGCAAGAAAGATTCTAGGACAAGAGCTAGGCATGTACTTCTGACCAGGTGGGTAAAGCAACTCTAAG      | 1816 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |

Fig. 28C

TCTGTATTGTATTGGTCATTCTCAGTGAAATCCCTTAGGCCCTCTAGTGGTTTCCCCTACCTGCATATTGGTTTC 1895  
ATGTTTTATATTCACTGTTACTATCTTCTGTGTTTAATAATAAATGTTTTCTATCAAAAAAATAAAGGC 1974  
GGCCGC 1980

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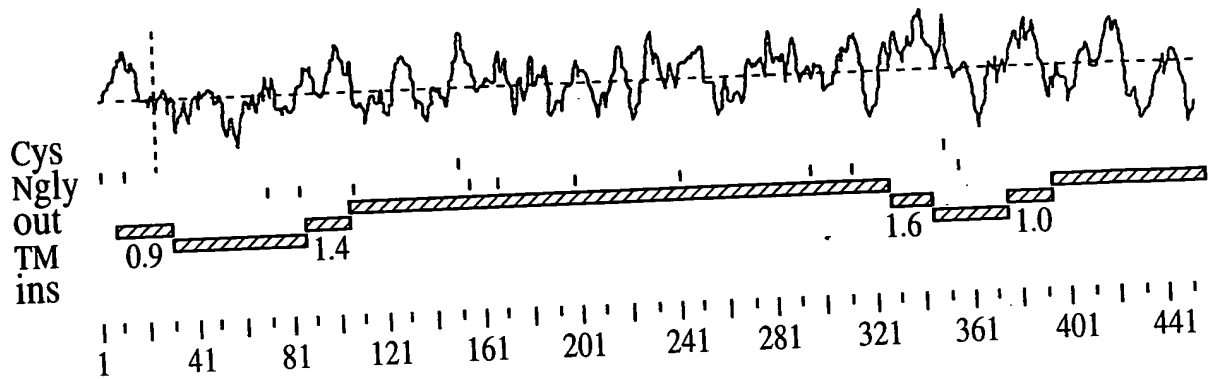


Fig. 28E

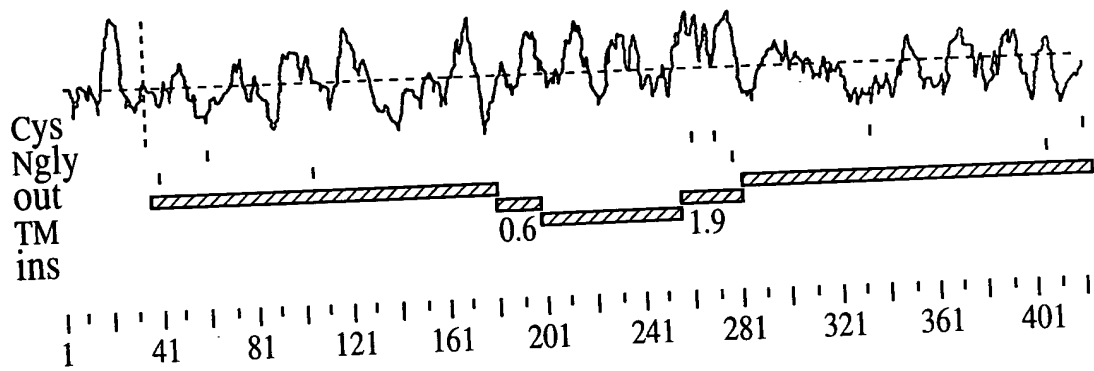


Fig. 29F

FOOT-026560

**Fig. 28F**

**Fig. 28G**

**Fig. 28H**

**Fig. 28I**

|   |       |
|---|-------|
| GTCGACCCACGCGTCCGGGAATTGCAGCAGGAAATAATGTGAAGAGTTTTTAAACCCACAAAATCTTCTTACTTTAGA      | 79    |
| M L E T L S R Q   |       |
| ATTAGTTGTTACATTGCAGGAAAAATAAATGCAGATGTTGGACC ATG TTG GAA ACC TTG TCA AGA CAG        | 8 149 |
| W I V S H R M E M W L L I L V A Y M F Q   | 28    |
| TGG ATT GTC TCA CAC AGA ATG GAA ATG TGG CTT CTG ATT CTG GTG GCG TAT ATG TTC CAG     | 209   |
| R N V N S V H M P T K A V D P E A F M N   | 48    |
| AGA AAT GTG AAT TCA GTA CAT ATG CCA ACT AAA GCT GTG GAC CCA GAA GCA TTC ATG AAT     | 269   |
| I S E I I Q H Q G Y P C E E Y E V A T E   | 68    |
| ATT AGT GAA ATC ATC CAA CAT CAA GGC TAT CCC TGT GAG GAA TAT GAA GTC GCA ACT GAA     | 329   |
| D G Y I L S V N R I P R G L V Q P K K T   | 88    |
| GAT GGG TAT ATC CTT TCT TCT GTT AAC AGG ATT CCT CGA GGC CTA GTG CAA CCT AAG AAG ACA | 389   |
| G S R P V V L L Q H G L V G A S N W I   | 108   |
| GGT TCC AGG CCT GTG GTG TTA CTG CAG CAT GGC CTA GGT GGT GCT AGC AAC TGG ATT         | 449   |
| S N L P N N S L G F I L A D A G F D V W   | 128   |
| TCC AAC CTG CCC AAC AAT AGC CTG GGC TTC ATT CTG GCA GAT GCT GGT TTT GAC GTG TGG     | 509   |
| M G N S R G N A W S R K H K T L S I D Q   | 148   |
| ATG GGG AAC AGC AGG GGA AAC GCC TGG TCT CGA AAA CAC AAG ACA CTC TCC ATA GAC CAA     | 569   |

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Fig. 29A



D E F W A F S Y D E M A R F D L P A V I 168  
 GAT GAG TTC TGG GCT TTC AGT TAT GAT GAG ATG GCT AGG TTT GAC CTT CCT GCA GTG ATA 629  
  
 N F I L Q K T G Q E K I Y Y V G Y S Q G 188  
 AAC TTT ATT TTG CAG AAA ACG GGC CAG GAA AAG ATC TAT TAT GTC GGC TAT TCA CAG GGC 689  
  
 T T M G F I A F S T M P E L A Q K I K M 208  
 ACC ACC ATG GGC TTT ATT GCA TTT TCC ACC ATG CCA GAG CTG GCT CAG AAA ATC AAA ATG 749  
  
 Y F A L A P I A T V K H A K S P G T K F 228  
 TAT TTT GCT TTA GCA CCC ATA GCC ACT GTT AAG CAT GCA AAA AGC CCC GGG ACC AAA TTT 809  
  
 L L L P D M M I K G L F G K K E F L Y Q 248  
 TTG TTG CTG CCA GAT ATG ATG ATC AAG GGA TTG TTT GGC AAA AAA GAA TTT CTG TAT CAG 869  
  
 T R F L R Q L V I Y L C G Q V I L D Q I 268  
 ACC AGA TTT CTC AGA CAA CTT GTT ATT TAC CTT TGT GGC CAG GTG ATT CTT GAT CAG ATT 929  
  
 C S N I M L L L L G G F N T N M N M S R 288  
 TGT AGT AAT ATC ATG TTA CTT CTG GGT GGA TTC AAC ACC AAC AAT ATG AAC ATG AGC CGA 989  
  
 A S V Y A A H T L A G T S V Q N I L H W 308  
 GCA AGT GTA TAT GCT GCC CAC ACT CTT GCT GGA ACA TCT GTG CAA AAT ATT CTA CAC TGG 1049  
  
 S Q A V N S G E L R A F D W G S E T K N 328  
 AGC CAG GCA GTG AAT TCT GGT GAA CTC CGG GCA TTT GAC TGG GGG AGT GAG ACC AAA AAT 1109

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Fig. 29B

L E K C N Q P T P V R Y R V R D M T V P 348  
 CTG GAA AAA TGC AAT CAG CCA ACT CCT GTA AGG TAC AGA GTC AGA GAT ATG ACG GTC CCT 1169  
  
 T A M W T G G Q D W L S N P E D V K M L 368  
 ACA GCA ATG TGG ACA GGA GGT CAG GAC TGG CTT TCA AAT CCA GAA GAC GTG AAA ATG CTG 1229  
  
 L S E V T N L I Y H K N I P E W A H V D 388  
 CTC TCT GAG GTG ACC AAC CTC ATC TAC CAT AAG AAT ATT CCT GAA TGG GCT CAC GTG GAT 1289  
  
 F I W G L D A P H R M Y N E I I H L M Q 408  
 TTC ATC TGG GGT TTG GAT GCT CCT CAC CGT ATG TAC AAT GAA ATC ATC CAT CTG ATG CAG 1349  
  
 Q E E T N L S Q G R C E A V L \* 424  
 CAG GAG GAG ACC AAC CTT TCC CAG GGA CGG TGT GAG GCC GTA TTG TGA 1397  
  
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 AGCATCTGACACTGACGATCTTAGGACAACCTCCTGAGGGATGGGGCTAGGACCCATGAAGGCAGAAATTACGGAGAGCA 1476  
 GAGACCTAGTATACATTTTTCAGATTCCCTGCACCTGGCACTAAATCCGACACTTACATTTTCTGTAAA 1555  
 TTAAAGTACTTATTAGGTAAATAGAGGTTTGTATGCTATTATATATCTACCATCTTGAAGGGTAGGTTTACCTGAT 1634  
 AGCCAGAAAATATCTAGACATTCTCTATATCATTCAGGTAAATCTCTTTAAACACACCTATTGTTTTCTATAAGCCAT 1713  
 ATTTTGGAGCACTAAAGTAAATGGCAAAATGGGACAGATATTGAGGCTCTGGAGTCTGTGGATTATTGTTGACTTGA 1792  
 CAAAATAAGCTAGACATTTTCACCTTGTGTCACAGACATAACACTACCTCAGGAAGCTGAGCTGCTTTAAGGACAA 1871  
 CAACAACAAAATCAGTGTACAGTATGGATGAAATCTATGTTAAGCATTTCTCAGAAATAAGGCCAAGTTTATAGTTGCA 1950  
 TCTCAGGGGAAGAAAATTTTATAGGATGTTTATGAGTTCTCCAATAAATGCATTCTGCATTACATAAAAAA 2029  
 AAAAAAGGCGGCCCGC 2044

Fig. 29C

```

10      20      30      40      50      60      70
294 MLETLSRQWIVSHRMEMWLLILVAYMFQRVNNSVHMPTKAVDPEAFMNISEIIHQHGYPCCEEYEVATEDG
:      :      :      :      :      :      :      :      :      :      :      :
HLP M-----WLL-----LTMASLISVLGTTGHLFGKLH-----PGSPEVTMNIQMITYWGYPNEEYEVVTEDEG
10      20      30      40      50

80      90      100     110     120     130     140
294 YILSVNRIPRGLVQPKKTGSRPVVLLQHGLVGASNWISNLPNNSLGFILADAGFDVWVGNSRGNWSRK
::      ::      ::      ::      ::      ::      ::      ::      ::      ::      ::
HLP YILEVNRIPYGKKNSGNTGQRPVVFLOHGLLASATNWISNLPNNSLAFILADAGYDVWLGNRGNNTWARR
60      70      80      90      100     110     120

150     160     170     180     190     200     210
294 HKTLIDQDEFWAFSYDEMARDLPAVINFILQKTGQEKIYYVGYSGTMTMGFIAFSTMPELAQAQIKMYF
.      :      :      :      :      :      :      :      :      :      :      :
HLP NLYYSPDSVEFWAFSFDDEMAKYDLPATIDFIVKKTGQKQLHYVGHSGQTTIGFIAFSTNPSPSLAKRIKTFY
130     140     150     160     170     180     190

220     230     240     250     260     270
294 ALAPIATVKHAKSPGTKFLLLPDMMIKGLFGKKEFLYQTRFLRQ-LVIYLCGQVILDQICSNIMLLLGGE
:      :      :      :      :      :      :      :      :      :      :      :
HLP ALAPVATVKYTKSLINKLRFVPQSLFKFIFGDKIF-YPHNFFDQFLATEVCSREMLNLLCSNALFIICGF
200     210     220     230     240     250     260

```

Fig. 29D

420  
294 EAVL  
HLP ---

**Fig. 29E**

```

10      20      30      40      50      60
294 MLETLRQWIVSHRMEMWLLILVAYMFQRNVNSVHMPTK--AVDPEAFMNISEIIHQHGYPCPEEYEVATE
:      :... :... :      :      :      :      :      :      :      :      :
LAL M-----KMRFLGLVVCLVWPLHSEGGKLTAVDPETNMNVSEIISYWGFPSSEYYLVETE
      10      20      30      40      50

70      80      90      100     110     120     130
294 DGYILSVNRIPRGLVQPKKTGSRPVVLLQHGLVGGASNWISNLPNNSLGFILADAGFDVWMGNSRGNWS
:      :      :      :      :      :      :      :      :      :      :
LAL DGYILCLNRIIPHGRKNHSDKGPVVFLOHGLLADSSNVVTNLANSSLGFILADAGFDVWMGNSRGNTWS
      60      70      80      90      100     110     120

140     150     160     170     180     190     200
294 RKHKTLSDQDEFWAFSYDEMAREFDLPVINFILQKTGQEKIYVVGYSQGTMTMGFIASFSTMPELAQIKM
:      :      :      :      :      :      :      :      :      :      :
LAL RKHKTLVSQDEFWAFSYDEMAKYDLPASINFILNKTGQEQVYVVGHSQGTGTIGFIASFQIPELAKRIKM
      130     140     150     160     170     180     190

210     220     230     240     250     260     270
294 YFALAPIATVKHAKSPGTFKFLLLPDMMIKGLFGKKEFLYQTRFLRQLVIYLCGQVILDQICSNIMLLGG
:      :      :      :      :      :      :      :      :      :      :
LAL FFGALGPVAVAFCTSPMAKLGRLPDHLIKDLFGDKFELPQSAFLKWLGTHVCTHVLKELCGNLCFLLCG
      200     210     220     230     240     250     260

```

Fig. 29G

```

280      290      300      310      320      330      340
294 FNTNNMNSRASVYAAHTLAGTSVQNILHWSQAVNSGELRAFDWGSETKNLEKCNQTPVRYRVRDMTVP
::  :::::::::::::: :::::::::::::: :::::::::::::: :::::::::::::: ::::::::::::::
LAL FNERNLNMSRVDVYTHSPAGTSVQNMLHWSQAVKFKQFAFDWGSSAKNYFHYNQSYPPTYNVKDMMLVP
270      280      290      300      310      320      330

350      360      370      380      390      400      410
294 TAMWTGGQDWLSNPEDVKMLLSEVTNLIYHKNIPEWAHVDFIWGLDAPHRMYNEIIHLMQQEETNLSQGR
:: :::::::::::::: :::::::::::::: :::::::::::::: :::::::::::::: ::::::::::::::
LAL TAVWSGGHDWLADVVDVNILLTQITNLVFHESIPEWEHLDFIWGLDAPWRLYNKIINLMRKYQ-----
340      350      360      370      380      390

420
294 CEAVL

LAL -----

```

Fig. 29H

|   |     | M   |  | S |  | 2   |  |
|---|-----|-----|--|---|--|-----|--|
| GTCGACCCACGCGTCCACGGGAGGGCTCCCGGGGCGAGCATTTGCCCCCTGCACCACCTCACCAG                   | ATG | GCT |  |   |  | 75  |  |
| T L G H T F P F Y A G P K P T F P M D T   |     |     |  |   |  | 22  |  |
| ACT TTG GGA CAC ACA TTC CCC TTC TAT GCT GGC CCC AAG CCA ACC TTC CCG ATG GAC ACC     |     |     |  |   |  | 135 |  |
| T L A S I I M I F L T A L A T F I V I L   |     |     |  |   |  | 42  |  |
| ACT TTG GCC AGC ATC ATC ATG ATC TTT CTG ACT GCA CTG GCC ACG TTC ATC GTC ATC CTG     |     |     |  |   |  | 195 |  |
| P G I R G K T R L F W L L R V V T S L F   |     |     |  |   |  | 62  |  |
| CCT GGC ATT CGG GGA AAG ACG AGG CTG TTC TGG CTG CTT CGG GTG GTG ACC AGC TTA TTC     |     |     |  |   |  | 255 |  |
| I G A A I L A V N F S S E W S V G Q V S   |     |     |  |   |  | 82  |  |
| ATC GGG GCT GCA ATC CTG GCT GCT GTG AAT TTC AGT TCT GAG TGG TCT GTG GGC CAG GTC AGC |     |     |  |   |  | 315 |  |
| T N T S Y K A F S S E W I S A D I G L Q   |     |     |  |   |  | 102 |  |
| ACC AAC ACA TCA TAC AAG GCC TTC AGT TCT GAG TGG ATC AGC GCT GAT ATT GGG CTG CAG     |     |     |  |   |  | 375 |  |
| V G L G G V N I T L T G T P V Q Q L N E   |     |     |  |   |  | 122 |  |
| GTC GGG CTG GGT GGA GTC AAC ATC ACA CTC ACA GGG ACC CCC GTG CAG CAG CTG AAT GAG     |     |     |  |   |  | 435 |  |
| T I N Y N E E F T W R L G E N Y A E E C   |     |     |  |   |  | 142 |  |
| ACC ATC AAT TAC AAC GAG GAG TTC ACC TGG CGC CTG GGT GAG AAC TAT GCT GAG GAG TGT     |     |     |  |   |  | 495 |  |
| A K A L E K G L P D P V L Y L A E K F T   |     |     |  |   |  | 162 |  |
| GCA AAG GCT CTG GAG AAG GGG CTG CCA GAC CCT GTG TTG TAC CTA GCT GAG AAG TTC ACT     |     |     |  |   |  | 555 |  |

Fig. 30A

# Table 30B

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| P   | R   | S   | P   | C   | G   | L   | Y   | R   | Q   | Y   | R   | L   | A   | G   | H   | Y   | T   | S   | A   | 182  |
| CCA | AGA | AGC | CCA | TGT | GGC | CTA | TAC | CGC | CAG | TAC | CGC | CTG | GCG | GGA | CAC | TAC | ACC | TCA | GCC | 615  |
| M   | L   | W   | V   | A   | F   | L   | C   | W   | L   | L   | A   | N   | V   | M   | L   | S   | M   | P   | V   | 202  |
| ATG | CTA | TGG | GTG | GCA | TTC | CTC | TGC | TGG | CTG | CTG | GCC | AAT | GTG | ATG | CTC | TCC | ATG | CCT | GTG | 675  |
| L   | V   | Y   | G   | G   | Y   | M   | L   | L   | A   | T   | G   | I   | F   | Q   | L   | L   | A   | L   | L   | 222  |
| CTG | GTA | TAT | GGT | GGC | TAC | ATG | CTA | TTG | GCC | ACG | GGC | ATC | TTC | CAG | CTG | TTG | GCT | CTG | CTC | 735  |
| F   | F   | S   | M   | A   | T   | S   | L   | T   | S   | P   | C   | P   | L   | H   | L   | G   | A   | S   | V   | 242  |
| TTC | TTC | TCC | ATG | GCC | ACA | TCA | CTC | ACC | TCA | CCC | TGT | CCC | CTG | CAC | CTG | GGC | GCT | TCT | GTG | 795  |
| L   | H   | T   | H   | H   | G   | P   | A   | F   | W   | I   | T   | L   | T   | T   | G   | L   | L   | C   | V   | 262  |
| CTG | CAT | ACT | CAC | CAT | GGG | CCT | GCC | TTC | TGG | ATC | ACA | TTG | ACC | ACA | GGA | CTG | CTG | TGT | GTG | 855  |
| L   | L   | G   | L   | A   | M   | A   | V   | A   | H   | R   | M   | Q   | P   | H   | R   | L   | K   | A   | F   | 282  |
| CTG | CTG | GGC | CTG | GCT | ATG | GCG | GTG | GCC | CAC | AGG | ATG | CAG | CCT | CAC | AGG | CTG | AAG | GCT | TTC | 915  |
| F   | N   | Q   | S   | V   | D   | E   | D   | P   | M   | L   | E   | W   | S   | P   | E   | E   | G   | G   | L   | 302  |
| TTC | AAC | CAG | AGT | GTG | GAT | GAA | GAC | CCC | ATG | CTG | GAG | TGG | AGT | CCT | GAG | GAA | GGT | GGA | CTC | 975  |
| L   | S   | P   | R   | Y   | R   | S   | M   | A   | D   | S   | P   | K   | S   | Q   | D   | I   | P   | L   | S   | 322  |
| CTG | AGC | CCC | CGC | TAC | CGG | TCC | ATG | GCT | GAC | AGT | CCC | AAG | TCC | CAG | GAC | ATT | CCC | CTG | TCA | 1035 |
| E   | A   | S   | S   | T   | K   | A   | Y   | C   | K   | E   | A   | H   | P   | K   | D   | P   | D   | C   | A   | 342  |
| GAG | GCT | TCC | TCC | ACC | AAG | GCA | TAC | TGT | AAG | GAG | GCA | CAC | CCC | AAA | GAT | CCT | GAT | TGT | GCT | 1095 |

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Fig. 30B



|     |     |      |
|-----|-----|------|
| L   | *   | 344  |
| TTA | TAA | 1101 |
|     |     |      |
| CAT | TCT | 1180 |
| CC  | T   | 1259 |
| AA  | AA  | 1338 |
| GC  | CA  | 1417 |
| AA  | CT  | 1496 |
| CC  | CT  | 1575 |
| AG  | AC  | 1654 |
| GC  | TT  | 1733 |
| CAC | TA  | 1812 |
| TCC | CA  | 1891 |
| CG  | TC  | 1970 |
| TG  | GA  | 2049 |
| GG  | AC  | 2128 |
| GCC | GC  | 2133 |

Fig. 30C

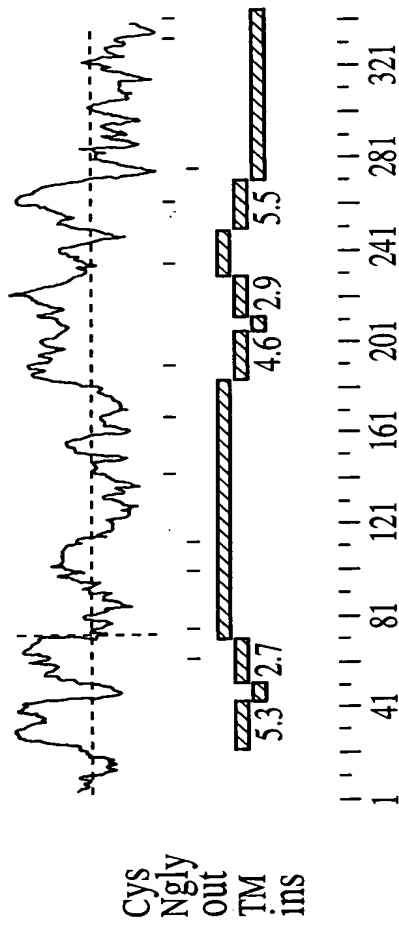


Fig. 30D

```

296 MATLGHTFPFYAGPKPTFFPMDTTLASIIMIELTALATFVILPGIRGKTRFLRWLVVTSLFIGAAILAV
: .. :... .. :: ..... : . : : .....
CRP M-RIAH-----ASSRGN I 10 20 30 40 50
                                20 30 40 50

296 NFSSEWSVGQVSTNTSYKAFSSEWISADIGLQVLGGVNITL-----TGTPVQQQLNETIN--YNEEFTW
. . : . : ... : : : : : : : : : : : : : : : : : :
CRP LIYPCWASGSQMIYTQFRGRHSNERILAKIGVEIGLQKVNVTLKFERLLSSNDVLPGSDMTELYYNEGEDI
60 70 80 90 100 110 120 130
```

**Fig. 30E**

**Fig. 30F**

**Fig. 30G**